

I. Purpose

This paper represents the final draft of the white paper prepared by the South Florida Water Management District, originally dated June 25, 2002 and revised December 16, 2002. The paper has been substantially revised based on public and agency input pertaining to key policy, technical and process issues associated with the implementation of the Comprehensive Everglades Restoration Plan (CERP).

The purpose of this paper is to outline a process and methodology under State and Federal law for identifying and protecting water for the natural system and human uses which will be made available through implementation of the CERP. This paper also identifies technical and policy issues regarding assurances for existing legal sources, protection of existing legal users, protection of levels of service for flood protection, and reservations of water for the natural system. The paper includes a discussion of additional State strategies associated with water supply plan recommendations pertaining to regional water availability for consumptive uses, initial reservations for the natural system and other rules which provide interim assurances for water users and water resource protection.

The general policy framework and concepts discussed in this document will be presented to the South Florida Water Management District Governing Board, the Water Resources Advisory Commission, and the South Florida Ecosystem Restoration Task Force's Working Group in May 2003. After final comments and approval by the U.S. Army Corps of Engineers, this document may be used to assist in the preparation of the CERP Guidance Memorandum detailing the process and methodology for identifying and protecting water for the natural system and other uses under Federal and State law.

A glossary of key terms and preliminary definitions has been included in Appendix A.

II. Summary of Relevant Legal Directives

A. Federal Water Resources Development Act of 2000

Congress enacted the Water Resources Development Act of 2000, Title VI, Comprehensive Everglades Restoration (WRDA 2000) to approve implementation of the CERP "as a framework for modifications and operational changes to the Central and Southern Florida (C&SF) Project that are needed to restore, preserve, and protect the South Florida ecosystem while providing for other water-related needs of the region, including water supply and flood protection." (Sec. 601(b)(1)(A)). WRDA 2000 requires CERP "to be implemented to ensure the protection of water quality in, the reduction of the loss of fresh water from, the improvement of the environment of the South Florida Ecosystem and to achieve and maintain the benefits to the natural system and human environment described in the CERP" (Sec. 601(h)(1)). These provisions are primarily contained in Section 601(h) entitled "Assurance of Project Benefits", attached as Appendix B. Some of the most pertinent portions regarding quantification and protection of water supplies from CERP are summarized below to provide background for this paper.

1 Section 601(h)(2) requires the execution of a binding agreement between the President and the
2 Governor of Florida to ensure that, "the water made available by each project in the Plan shall
3 not be permitted for consumptive use or otherwise made unavailable by the State until such time
4 as sufficient reservations of water for the restoration of the natural system are made under State
5 law in accordance with the project implementation report for that project and consistent with the
6 Plan." The "Comprehensive Everglades Restoration Plan Assurance of Project Benefits
7 Agreement" was executed on January 9, 2002. A copy of this agreement is included as
8 Appendix C.

9
10 Section 601(h)(3) requires the development of programmatic regulations to establish a process
11 for implementation of the CERP, including in relevant part, procedures for development of
12 Project Implementation Reports (PIR), Project Cooperation Agreement (PCA), operating
13 manuals, procedures to incorporate new information and adaptive management into CERP
14 implementation, and procedures "to ensure the protection of the natural system consistent with
15 the goals and purposes of the Plan. . . ." Section 601(h)(3)(C)(i)(I)-(III). At the time this paper
16 is being finalized, the programmatic regulations remain in draft form.

17
18 Section 601(h)(4) of the WRDA 2000 identifies requirements for project specific assurances in
19 PIRs, PCAs, and operating manuals. PIRs, in relevant part, must include identification of
20 quantity, timing, and distribution of water for the natural system and identification of water to be
21 reserved under State Law. Sec. 601(h)(4)(A) Project Cooperation Agreements cannot be
22 executed "until any reservation or allocation of water for the natural system identified in the
23 Project Implementation Report is executed under State law." Sec. 601(h)(4)(B). Operating
24 manuals must be consistent "with the water reservation or allocation for the natural system
25 described in the project implementation report and the project cooperation agreement for the
26 project or group of projects." Sec. 601(h)(4)(C)

27
28 Section 601(h)(5) provides a savings clause that applies when implementing CERP. This is a
29 key focus of the Federal legislation. It states:

30
31 (A) NO ELIMINATION OR TRANSFER—Until a new source of water supply
32 of comparable quantity and quality as that available on the date of enactment of
33 this Act is available to replace the water to be lost as a result of implementation of
34 the Plan, the Secretary and the non-Federal sponsor shall not eliminate or transfer
35 the existing legal source of water including those for—

- 36
37 (i) an agricultural or urban water supply;
38 (ii) allocation or entitlement to the Seminole Indian Tribe of Florida under
39 section 7 of the Seminole Indian Land Claims Settlement Act of 1987
40 (25 U.S.C. 1772e);
41 (iii) the Miccosukee Tribe of Indians of Florida;
42 (iv) water supply for Everglades National Park; or
43 (v) water supply for fish and wildlife.
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(B) MAINTENANCE OF FLOOD PROTECTION - Implementation of the Plan shall not reduce levels of service for flood protection that are-

- (i) in existence on the date of enactment of this Act; and
- (ii) in accordance with Applicable law.

(C) NO EFFECT ON TRIBAL COMPACT - Nothing in this section amends, alters, prevents, or otherwise abrogates rights of the Seminole Indian Tribe of Florida under the compact among the Seminole Tribe of Florida, the State, and the South Florida Water Management District, defining the scope and use of water rights of the Seminole Tribe of Florida, as codified by section 7 of the Seminole Indian Land Claims Settlement Act of 1987 (25 U.S.C. 1772e).
Section 601(h)(5), WRDA 2000

B. State Laws Regarding Implementation of CERP

The Florida Legislature has also enacted a series of laws into Chapter 373 defining the roles of the SFWMD and the Florida Department of Environmental Protection (DEP) in the implementation of CERP, including Sections 373.026(8), 373.1501, 373.1502, and 373.470, F.S. With regard to assuring project benefits, as with WRDA 2000, Section 373.470(b) requires that the comprehensive plan be used as a "guide and framework to ensure that the project components will be implemented to achieve the purposes of the "Federal Water Resources Development Act of 1996." S. 373.470(3)(b)2, F.S.

Prior to any project component being submitted to Congress for authorization or receipt of an appropriation of State funds for construction, the DEP must approve each project component, pursuant to Section 373.026(8), F.S., upon a finding that the SFWMD has complied with the requirements set forth in Section 373.1501(5), F.S. That section provides assurances to natural systems and existing legal users and for flood protection, including requirements that SFWMD for each project component:

- (a) Analyze and evaluate all needs to be met in a comprehensive manner and consider all applicable water resource issues, including water supply, water quality, flood protection, threatened and endangered species, and other natural system and habitat needs.
- (d) Consistent with [Chapter 373], the purposes for the Restudy provided in the Water Resources Development Act of 1996, and other applicable Federal law, provide reasonable assurances that the quantity of water available to existing legal users shall not be diminished by implementation of project components so as to adversely impact existing legal users, that existing levels of service for flood protection will not be diminished outside the geographic area of the project component, and that water management practices will continue to adapt to meet the needs of the restored natural environment.

Section 373.1501(5), F.S.

1 Prior to executing a PCA, the SFWMD must develop a Project Implementation Report (PIR)
2 with the U.S. Army Corps of Engineers to address the requirements in Section 373.1501, F.S.,
3 and to obtain approval under Section 373.026, F.S., for the project from the DEP. This helps to
4 assure that the PIR will be sufficient to meet both State, as well as Federal, law requirements for
5 implementing a CERP project.

6
7 In addition, Section 373.470(3)(c), F.S., requires that each PIR identify the increase in water
8 supplies resulting from a project component. These increased water supplies for the natural
9 system must be allocated or reserved by the SFWMD under Chapter 373, F.S. Section
10 373.470(3)(c), F.S.

11 12 **C. Water Resource Protection Tools Under State Law**

13
14 As described in Section B above, WRDA 2000 and Chapter 373, F.S. require that State law be
15 used to protect water supplies for natural systems and humans made available by CERP. The
16 following is a summary of State statutory tools available to protect water supplies for these
17 purposes.

18 19 **1. Reservations**

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21 As required by State and Federal law, reservations of water for the natural system will be
22 established by the SFWMD pursuant to State law. The State law on water reservations, in
23 Section 373.223(4), F.S., provides:

24
25 The governing board or the department, by regulation, may reserve from use by
26 permit applicants, water in such locations and quantities, and for such seasons of
27 the year, as in its judgment may be required for the protection of fish and wildlife
28 or the public health and safety. Such reservations shall be subject to periodic
29 review and revision in the light of changed conditions. However, all presently
30 existing legal uses of water shall be protected so long as such use is not contrary
31 to the public interest.

32
33 In simple terms, when water is reserved under this statute it is not available to be allocated for
34 use under a consumptive use permit. The SFWMD anticipates that both CERP and non-CERP
35 related reservations will be adopted for Everglades restoration. For CERP reservations, the
36 amount of water to be reserved is the water made available for the natural system by a CERP
37 project, or for the protection of "fish and wildlife" under the reservation statute.

38
39 Existing allocations under a consumptive use permit are protected to the extent they are "not
40 contrary to the public interest." Under Florida law, permitted uses and domestic water uses
41 (which are exempt from requirements to obtain a permit) have the legal status of an "existing
42 legal use." Unauthorized existing uses do not constitute an "existing legal use". Also, for CERP
43 reservations, the public interest balance for existing legal uses in the reservation statute must be
44 read in conjunction with Section 373.1501, F.S., which requires a finding by the SFWMD that a
45 CERP project will not diminish the water available so as to adversely impact the existing legal
46 uses under permit. Section 373.1501(5)(d), F.S.

Pursuant to WRDA 2000, CERP reservations for a specific project must be executed prior to entering into the PCA for the project. However, reservations are subject to periodic review based on changed conditions, such as the changes that will occur in the C&SF Project as CERP projects become operational. This provides flexibility to account for changes in implementation strategies, restoration objectives, and contingency plans during the life of the project.

2. Consumptive Use Permitting

Consumptive use permits are issued by the water management districts pursuant to Part II of Chapter 373, F.S. As stated above, under Florida law permitted uses and domestic water uses (which are exempt from requirements to obtain a permit) have the legal status of an "existing legal use." This existing legal use protection has a role in establishing water reservations.

In order to obtain a consumptive use permit, the permit applicant must provide reasonable assurances that the use is "reasonable-beneficial", will not interfere with any presently existing legal use of water, and is consistent with the public interest, pursuant to Section 373.223, F.S. The SFWMD implements this three-prong test pursuant to rules adopted in Chapter 40E-2, Florida Administrative Code (F.A.C.). Permits are conditioned to assure that uses are consistent with the overall objectives of Chapter 373, F.S. and are not harmful to the water resources of the area, under Section 373.219, F.S.

Under Florida law, a consumptive use permit provides the permittee with the right to use water consistent with the conditions of the permit for the duration of the permit. Prior to permit expiration, the permittee must obtain a renewal of the permit in order to continue the water use. State law also provides specific standards to apply when competition for water occurs, such as when not enough water available to meet the demands of all pending requests for water use permit under Section 373.233, F.S.

Existing legal uses of water must meet the conditions for issuance of a permit during a 1 in 10 year drought condition, known as the "level of certainty." This "level of certainty" provides assurance, both to the permitted user and the water resources, that harm will not occur due to permitted withdrawals in climatic conditions less severe than a 1 in 10 year drought. This concept and its implications during increasing drought conditions are further discussed in Section 3 below.

3. Minimum Flows and Levels

The SFWMD is responsible for the implementation of statutory provisions in Section 373.042, F.S., requiring establishment of Minimum Flows and Levels (MFLs) for watercourses and aquifers. Generally stated, the MFLs for a given watercourse or aquifer are the limit at which further withdrawals would be significantly harmful to the water resources of the area (Section 373.042, F.S.). Significant harm is defined by SFWMD rule to be the temporary loss of water resource functions that takes more than two years to recover (Rule 40E-8.021(24), F.A.C.). Certain exclusions and considerations for establishing MFLs, including defining "significant harm" for a specific water body, are contained in Section 373.0421, F.S. Recovery and

prevention strategies must also be developed if there are existing or projected shortfalls in meeting the MFL, as provided by Section 373.0421, F.S.

Minimum flow and level standards for specific water bodies and aquifers within the SFWMD are contained in Chapter 40E-8, F.A.C., which also includes recovery and prevention strategies for each MFL. At this time MFLs have been established for the following priority water bodies:

- Lake Okeechobee
- Everglades (Water Conservation Areas, Everglades National Park, Rotenberger, and Holeyland Wildlife Management Areas)
- Northern Biscayne Aquifer within the Lower East Coast
- Lower West Coast confined aquifers
- Caloosahatchee Estuary
- Northwest Fork of the Loxahatchee River
- St. Lucie River

The SFWMD is also proceeding with efforts to develop MFLs for Biscayne Bay and the Southern Biscayne aquifer by the end of 2004 and the Florida Bay by the end of 2006.

In addition to the standards and recovery and prevention strategies in Chapter 40E-8, specific consumptive use permitting criteria for MFLs are adopted in Chapter 40E-2, F.A.C. and water shortage criteria for MFLs are adopted in Chapters 40E-21 and 40E-22, F.A.C.

4. Water Shortage Plan

Pursuant to Section 373.246, F.S., water shortage declarations are designed to prevent serious harm from occurring to water resources. Serious harm is defined by SFWMD rule as long-term, irreversible, or permanent impacts to the water resource (Rule 40E-8.021(23), F.A.C.). Declarations of water shortages by the Governing Board are used as a tool to assist in preventing serious harm to the water resources during droughts, while equitably distributing water resources for consumptive and non-consumptive uses, as provided in Chapter 40E-21, F.A.C. Water shortage declarations are imposed in phases, with increasing water use cutbacks with increasing drought conditions.

5. Regional Water Supply Planning Requirements

Regional water supply plans, which are approved by the SFWMD Governing Board, provide strategies that assure that adequate water is available to meet future urban, agricultural, and natural system demands for 20-year horizon (Section 373.0361, F.S.). Regional water supply plans include water supply and water resource development components, a funding strategy for water resource development projects, MFLs established within the planning region, MFL recovery and prevention strategies, and technical data and information supporting the plan.

The water supply development component must include the quantification of the water supply needs for all existing and projected future uses within the planning horizon, with a level of certainty planning goal for meeting those needs during a one in ten year drought event.

Furthermore, it must include a list of water source options for water supply development, including traditional and alternative sources, from which local governments, government-owned and privately owned utilities, self-suppliers, and others may choose. For each option, the amount of water available, the estimated unit cost of the option, and sources of funding must be identified.

The *Lower East Coast Regional Water Supply Plan (LECRWSP)*, approved by the Governing Board in May 2000, incorporates the CERP components planned within the South Florida ecosystem as identified in WRDA 2000. The future updates of the CERP and Lower East Coast Regional Water Supply Plan, in five year intervals, will continue to be coordinated.

III. Conceptual Relationship between Water Supply and Demands for Humans and Natural Systems, Resource Protection Tools and CERP

Prior to human intervention, the water needs of the environment were a function of the natural drainage patterns and hydrologic conditions. Hydropatterns were a function of pre-drainage features and rainfall distributions typically exhibiting higher wet season flows and levels that decreased naturally as rainfall decreased during dry conditions. Human intervention changed natural drainage patterns through a reduction in the spatial extent of the natural areas, the construction of levees, canals, and structures, and the introduction of human demands. These changes included a reduction in groundwater levels near the coast for purposes of flood protection that have resulted in changes to the spatial and temporal distribution of flows and levels to the environment, and altered the timing and volume of water which was available under pre-drainage conditions.

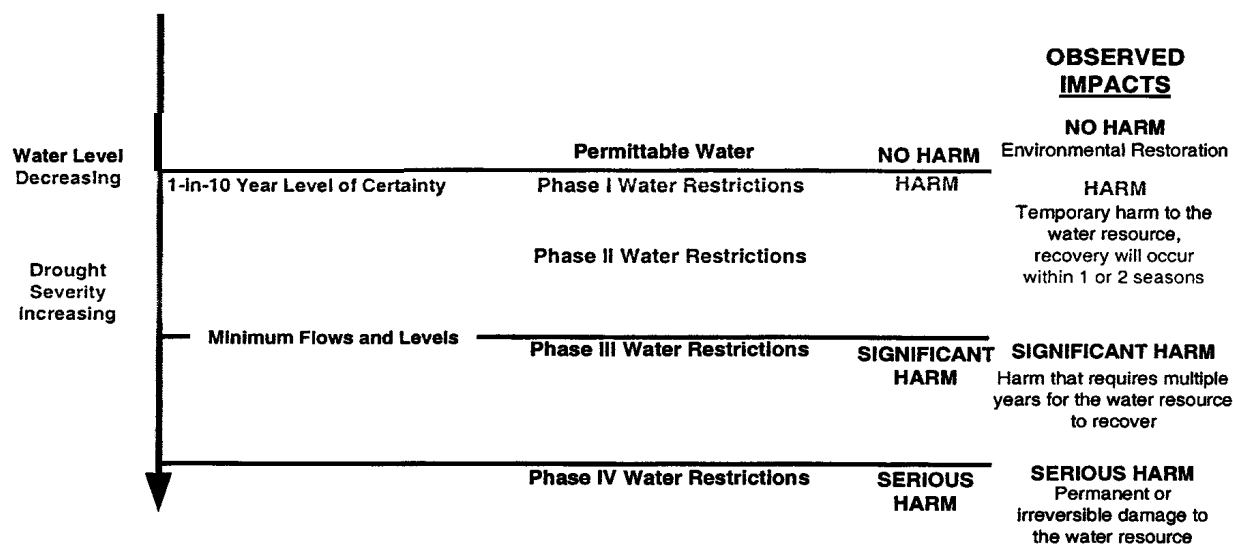
Human demands increase as a function of rainfall deficits as illustrated in Figure 1 (located at the end of this section). One of the goals for water supply planning is to achieve a level of certainty to meet human demands up to and including a one in ten year drought condition. Under these conditions, the user must demonstrate that a proposed use is reasonable-beneficial, is consistent with the public interest, and will not interfere with other presently existing legal uses. Consumptive use permitting criteria are intended to protect the water resources from harm and also to provide a level of certainty to assure permit holders that they will not experience cutbacks to their reasonable-beneficial use in a less severe drought event.

More severe drought conditions than the permitted level of certainty may cause further reductions in groundwater levels and surface storage which are vital for agricultural and landscape irrigation, potable use, the prevention of saltwater intrusion, and the natural system. Human demands continue to increase when rainfall deficits exceed a one in ten year drought event. Water shortage restrictions (Chapter 40E-21, F.A.C.) are imposed on consumptive uses to moderate these increased demands in order to prevent "serious harm" to the water resources.

Minimum flows and levels are established to identify the point at which "significant harm" to the water resources or ecology is caused by further withdrawals (Section 373.042 F.S.). In order to reduce the occurrence of significant harm to the natural system under drought conditions, the Governing Board has established a Phase 3 (Extreme) water shortage restriction that will be

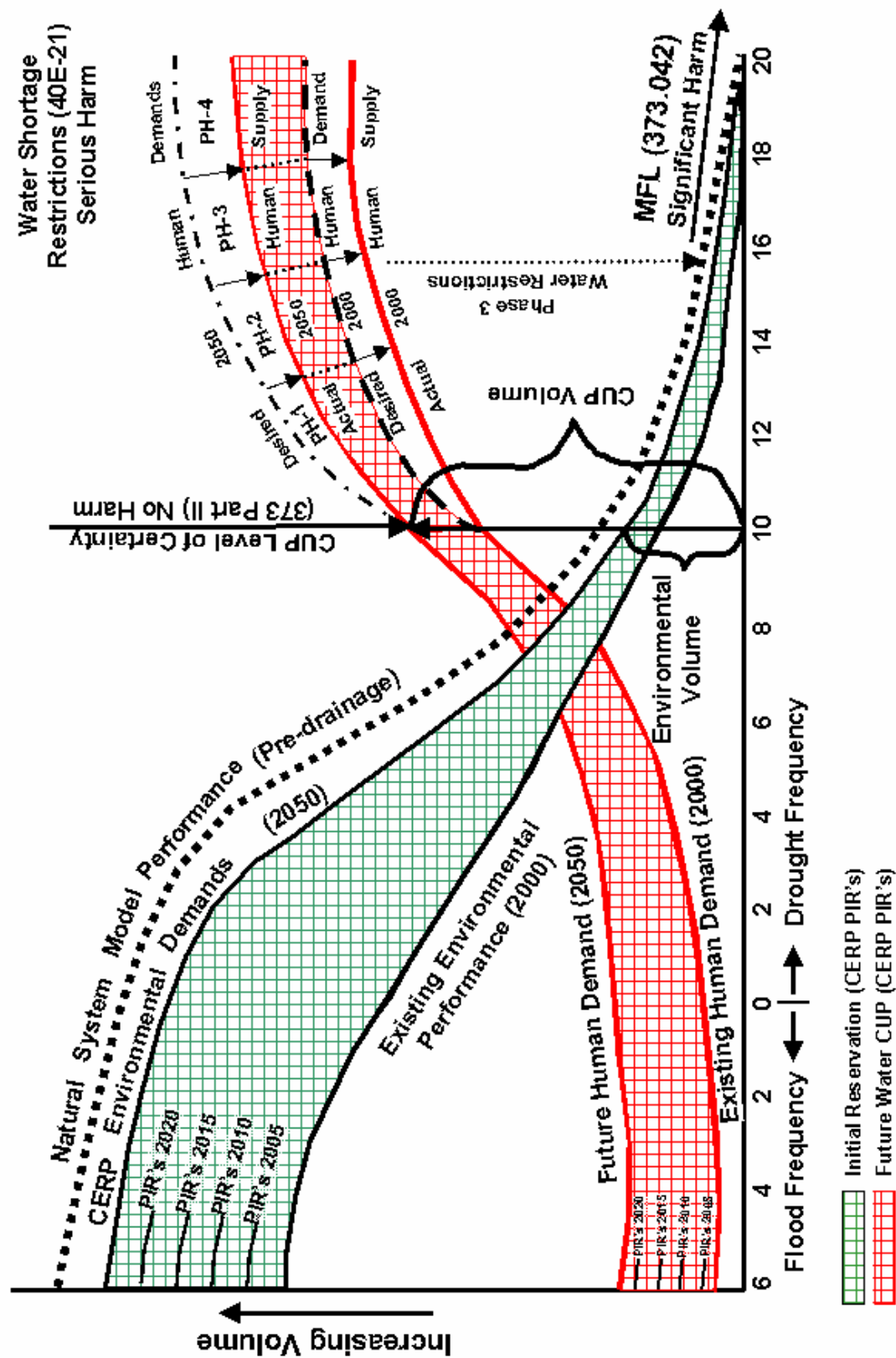
1 applied to human uses in order to moderate their demands, consistent with the conditions in
 2 Chapter 40E-21 and Chapter 40E-8, F.A.C. The relationships between minimum flows and
 3 levels, consumptive use permits and water shortage restrictions are shown in the diagram below.

4 5 **Conceptual Relationship Among the Harm, Serious 6 Harm and Significant Harm Standards**



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8
9 WRDA 2000 requires a quantification of water to be made available for the natural system as
 10 each PIR is developed. Furthermore, pursuant to the WRDA 2000 "Assurance of Project
 11 Benefits Agreement" between the President and Governor, reservations will be made under State
 12 law prior to a Project Cooperation Agreement (PCA) being executed. State law (Section
 13 373.470, F.S.) requires the PIR to identify the increase in water supplies resulting from the
 14 project component and this additional water be allocated or reserved under Section 373, F.S.
 15 Most, but not all, CERP projects will make additional water available for the environment
 16 through time as illustrated in Figure 1. As each project is completed, environmental performance
 17 will progressively improve until the environmental response meets or exceeds that originally
 18 envisioned in the *April 1999 C&SF Project Comprehensive Review Study* as approved by
 19 Congress. The project specific and system-wide performance relative to water supply, flood
 20 protection, and environmental requirements will be evaluated as each PIR is developed and
 21 documented.

Figure 1. Conceptual Relationship of Water Demands for Human Uses and Environmental Systems



IV. Overview of Proposed Water Resource Protection Strategies for CERP Implementation Under Federal and State Law

A. Background

The overarching objective of the CERP under both State and Federal law is restoration and preservation of the South Florida ecosystem while providing for other water-related needs, including water supply and flood protection. An overview of the specific Federal and State legal requirements for CERP implementation is discussed in Section II A and B. In general, Federal law requires quantification and protection of existing legal sources and levels of service for flood protection existing as of December 2000. This will be accomplished through development of a December 2000 Pre-CERP Baseline for comparison with future CERP draft PIRs. Furthermore, Federal law requires the quantification of water made available by CERP projects, and protection of water made available for natural systems through water reservations under State law. State law requires protection of existing legal users of water and levels of service for flood protection through time during CERP design and implementation. In addition, State law requires quantification of water made available by CERP projects and reservation or allocation of water made available by CERP projects. State law also provides additional tools for protection of human and natural system water supplies through consumptive use permitting, water shortage management, minimum flows and levels, and regional water supply planning.

An overview of water supply and resource protection strategies to meet Federal and State legal requirements pertaining to CERP are provided in Sections B through F below.

B. Pre-CERP Baseline – Identification and Quantification of Existing Legal Sources and Levels of Service for Flood Protection Existing as of December 2000

Identification and quantification of existing legal sources (i.e., quantity and quality) and levels of service for flood protection existing as of December 2000 can be achieved through the development of a Pre-CERP Baseline. The Pre-CERP Baseline will be developed by updating regional and sub-regional modeling tools to reflect operational, structural, land use, and consumptive use withdrawal configurations of the South Florida ecosystem that existed as of December 2000. Once the Pre-CERP Baseline is developed, the December 2000 legal sources and levels of service for flood protection existing as of December 2000 will be identified and quantified as outlined in Section V.

The Pre-CERP Baseline will be compared with the tentatively selected plan identified in the PIR process to determine whether an elimination or transfer of the identified existing legal source(s) as of December 2000 has occurred. Furthermore, the Pre-CERP Baseline will be used for comparison between the tentatively selected plan to determine whether a reduction in levels of service for flood protection that existed as of December 2000 has occurred.

The Pre-CERP Baseline will also be used as an indicator of the December 2000 system performance and as the base condition for the initial CERP update. Therefore, the Pre-CERP Baseline will provide an indication of the expected performance improvement through time of CERP for the natural system and other water uses.

C. Existing Condition PIR Baseline – Identification and Quantification of Existing Legal Users, Identification and Quantification of Flood Protection Levels of Service Through Time

Identification and quantification of existing legal users and levels of service for flood protection through the development of Existing Condition PIR Baseline will assist in implementing the requirements of Section 373.1501(5), F.S. The Existing Condition PIR Baseline will be used as an indicator of the present system performance at the time of the PIR initiation and will serve as a reference point for formulating the goals and objectives of the PIR design.

The Existing Condition PIR Baseline will be developed for each project through time by updating the SFWMM or sub-regional models to reflect the operational, structural, land use, and consumptive use withdrawal configurations of the South Florida ecosystem that exist at the time of initiation of each PIR. These updates will include structural and operational features of previously constructed PIRs, constructed non-CERP projects with approved operational plans (e.g., C-111, Modified Water Deliveries, STAs), other non-CERP operational changes which have been implemented (e.g., rainfall driven formulas, etc.) and permitted quantities of consumptive users. The Existing Condition PIR Baseline will be compared with the tentatively selected plan to determine whether there is potential for adverse impact on existing legal users and whether the level of flood protection has been diminished outside the geographic area of the project.

D. PIR Tentatively Selected Plan - Protection of Existing Legal Sources and Levels of Service for Flood Protection Existing as of December 2000 and Protection of Existing Legal Users and Levels of Service for Flood Protection Through Time

The Federal requirement of protecting the December 2000 legal sources and levels of service for flood protection will be demonstrated by the comparison of the PIR tentatively selected plan to the Pre-CERP Baseline. Likewise, protection of existing legal users and protection of levels of service for flood protection through time will be determined through the comparison of the tentatively selected plan to the Existing Condition PIR Baseline.

As each tentatively selected plan is developed through the PIR, a comparison will always be made to the December 2000 Pre-CERP Baseline quantification of existing legal sources to determine whether an elimination or transfer of the identified existing legal sources has occurred. This comparison will be made with a separate model run which includes only the current and previously approved CERP projects with their associated structural and operational features inserted into the December 2000 Pre-CERP Baseline condition. This model run will then be post-processed into the same performance criteria as the existing legal source performance criteria. If it is determined through the review of the performance criteria that an elimination or transfer of an existing legal source, either in quantity or quality, has occurred, the tentatively selected plan for the project must make up for the elimination and transfer or be revised to protect the existing legal source. Likewise, as each tentatively selected plan is developed through the PIR, a comparison will be made to the Pre-CERP Baseline quantification of the level of service of flood protection existing as of December 2000 to determine whether a reduction in the level of service has occurred. If it is determined a reduction in the level of service has

occurred, the tentatively selected plan for the project must be modified to eliminate the reduction.

Additionally, after the tentatively selected plan is identified in the PIR process, a comparison will also be made to the Existing Condition PIR Baseline to determine whether the water supply performance of existing legal users at the time of PIR development have been diminished. This comparison will be made by a separate model run which includes only the current and previously approved CERP projects, with their associated structural and operational features inserted into the Existing Condition PIR Baseline. This model run will be post-processed into the same performance criteria as the existing legal users performance criteria. If it is determined that the water supply performance has been diminished so as to adversely impact existing legal users, the tentatively selected plan must be revised until existing legal users are shown not to be adversely impacted.

Likewise, as each tentatively selected plan is developed through the PIR process, a comparison will always be made to the Existing Condition PIR Baseline to determine whether the level of service for flood protection at the time of PIR development has been diminished outside the geographic area of the project. If it is determined that a diminished level of service for flood protection has occurred, the tentatively selected plan must be revised to protect the level of service. However, it should be recognized that incidental flood protection improvements provided by a project, which are over and above that which was previously protected or designed, should not have to be protected by future CERP projects. These situations will have to be reviewed and analyzed on a case by case basis.

E. Draft PIR – Quantification of Additional Water Made Available for the Natural System and Quantification of Additional Water Made Available for Other Uses

The draft PIR must include the quantification of additional water made available for the natural system and additional water made available for other uses from the project. Once the tentatively selected plan has been determined to meet the legal protection requirements outlined in Section IV. D above and the project goals and objectives of the CERP restoration, the additional water made available by the project must be documented in the draft PIR. This documentation is expected to take the form of performance criteria, including volume probability curves, which will be developed for both the Existing Condition PIR Baseline and the PIR tentatively selected plan. Documenting the difference between these performance criteria will reflect the total additional water made available by the project. A certain portion of the deliveries associated with the tentatively selected plan may be directed to the natural system to meet restoration objectives, and another portion of water may be directed to other uses (i.e. consumptive uses or non-consumptive uses, such as for resource protection). In order to satisfy State and Federal legal requirements, these two quantities must be documented separately and will be further discussed in Section VIII.

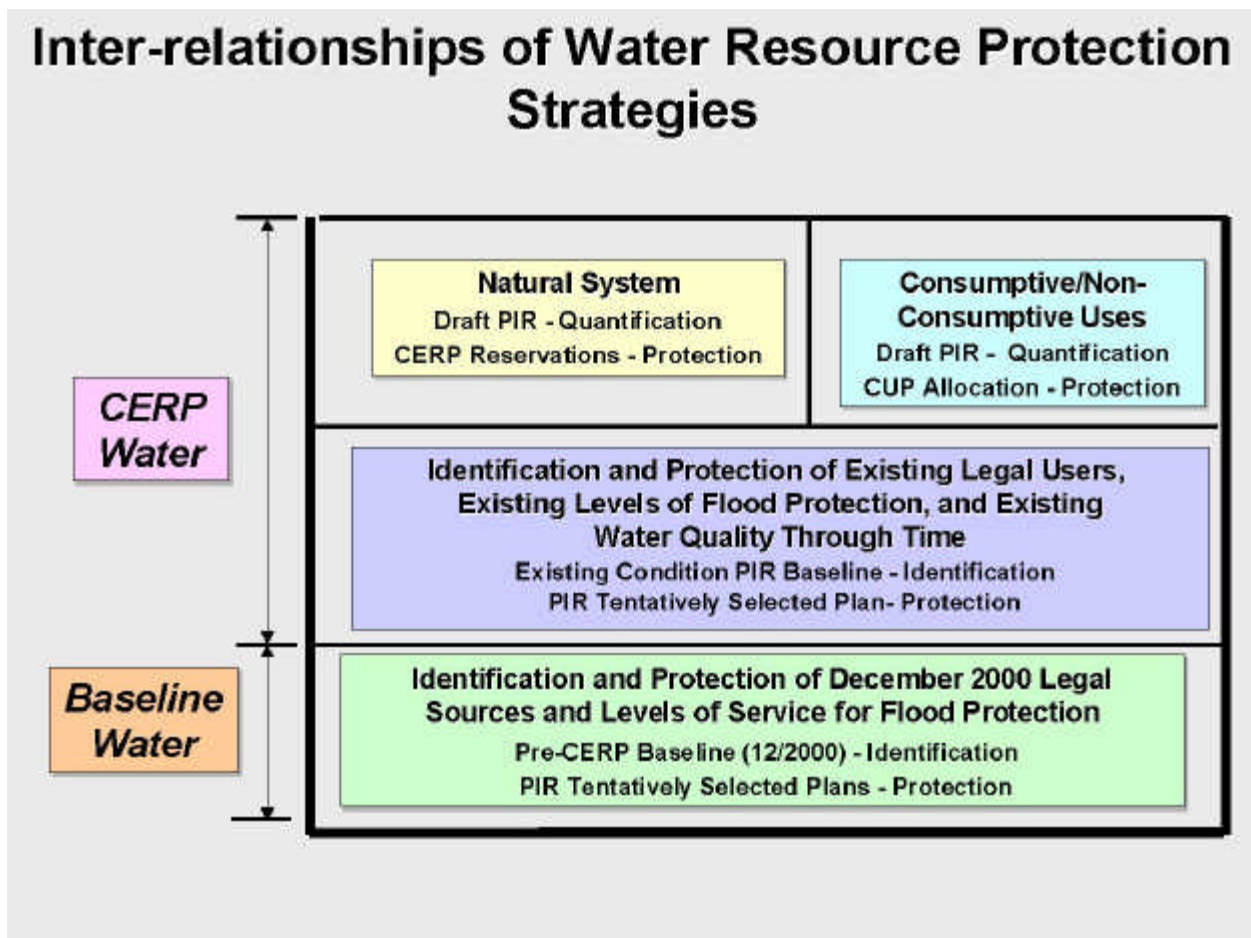
The additional water made available for natural systems is anticipated to be quantified on a project and system-wide basis. This quantification is expected to be documented by a series of performance criteria, including volume probability curves, which reflect the total water made available to the natural system for the protection of fish and wildlife. The volume probability

curves may be supplemented by additional performance criteria that graphically illustrate the cumulative regional natural system benefits resulting from the current and all past projects. If an environmental component has been identified within the project's boundary, then the volume necessary to protect the fish and wildlife values of that environmental component must also be quantified; however, this quantification will be documented on a local project level basis.

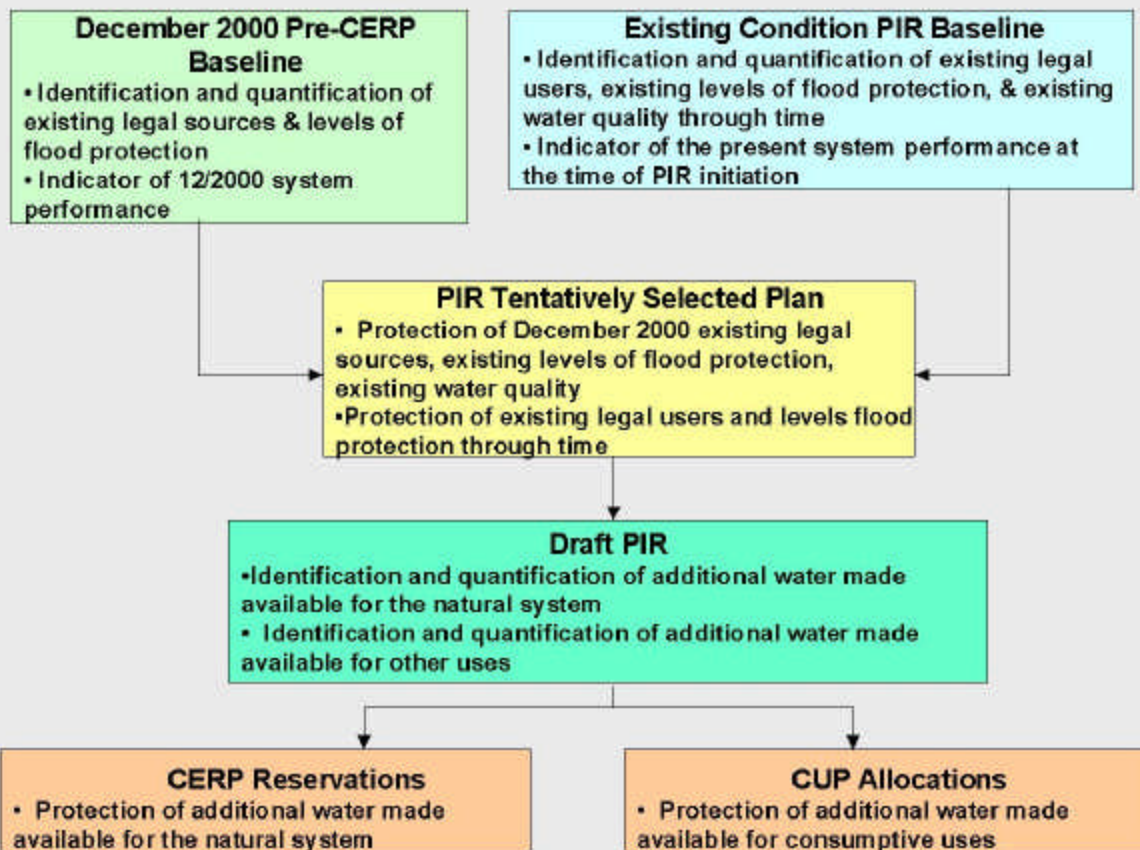
F. Establishing Water Reservations - Protection of Additional Water Made Available for the Natural System

The water to be reserved for the natural system will be determined from the additional water made available by the project as discussed in Section E above. This volume will be incorporated into a water reservation under State law prior to execution of the Project Cooperation Agreement (PCA). It is anticipated that as each PIR is finalized, the reservation will be revised to reflect the additional water made available for the natural system by the latest project; therefore, a cumulative total of natural system water may be appropriately reserved for the protection of fish and wildlife. Furthermore, the rule will be conditioned to reflect that the reserved water will not have a legal requirement to be delivered until the project is constructed, operated, tested and a final operating manual is approved.

The following diagrams show the inter-relationships of the water supply and resource protection strategies discussed in Sections B through F above.



Purposes and Intent of Water Resource Protection Strategies



V. Identification and Quantification of Existing Legal Sources of Water and Levels of Service for Flood Protection Existing as of December 2000 through the Development of a Pre-CERP Baseline

A. Background

The following section presents basic precepts in the identification of the Pre-CERP Baseline and a proposed technical approach for identifying and quantifying existing legal sources and levels of service for flood protection existing as of December 2000. Guiding principles for defining the Pre-CERP Baseline are discussed in Section V. B. Proposed methods for identifying and quantifying existing legal sources as of December 2000 are discussed in Sections V. C and V. D, respectively. Identification and quantification of levels of service for flood protection existing as of December 2000 are discussed in Section V. E. Guidance for protecting existing legal sources and levels of service for flood protection through the development of each PIR tentatively selected plan is discussed in Section VII.

The Pre-CERP Baseline and the resultant identification of existing legal sources and levels of service for flood protection will primarily be used to satisfy Federal legal requirements of WRDA 2000 Section 601(h)(5), pertaining to future CERP implementation. The Pre-CERP Baseline (not the resultant existing legal source identification) will also be used as an indicator of the December 2000 system performance and as the base condition for the initial CERP update (ICU). Therefore, the Pre-CERP Baseline when compared to the initial CERP update and implementation schedule simulations will provide an indication of the expected performance improvement through time of CERP for the natural system and other water uses.

B. Guiding Principles for Defining the December 2000 Pre-CERP Baseline

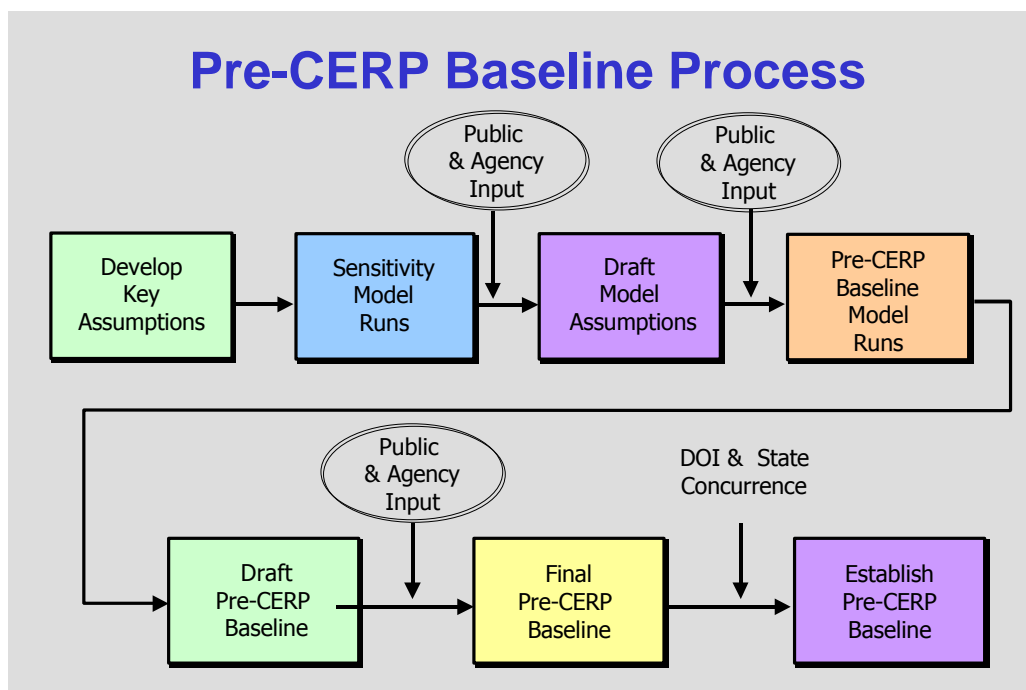
In order to meet legal requirements under Federal and State law, it is necessary to identify a Pre-CERP Baseline that reflects the timing, quantity, distribution, and quality of water from various sources under December 2000 Pre-CERP conditions within the South Florida ecosystem. This quantification is proposed to be accomplished through a Pre-CERP Baseline regional or sub-regional modeling simulation; however, the assumptions in the model first need to be defined. The December 2000 Pre-CERP Baseline is proposed to include structural, operational, and demand assumptions as of that date for determination of existing legal sources under State and Federal law.

As a general principle, the Pre-CERP Baseline conditions will be based on the assumptions in the *April 1999 C&SF Project Comprehensive Review Study* and the 1995 base case of the *Lower East Coast Regional Water Supply Plan* updated to December 2000 conditions (Appendix D). This is necessary because WRDA 2000 contemplates protection of existing legal sources and levels of service for flood protection existing as of the date of enactment on December 11, 2000.

The Pre-CERP Baseline condition should reflect as accurately as possible conditions that existed as of December 2000, while recognizing that further protections may be afforded under other provisions of Federal or State law with respect to minimum deliveries to Everglades National Park, entitlement rights to the Seminole Tribe or State water use permits. WRDA 2000 does not affect these other protections, nor is it the intent of the definition of existing legal sources to do so.

An on-going public process has included workshops and continued interaction with the Water Resources Advisory Commission (WRAC) and the South Florida Ecosystem Restoration Task Force and Working Group for the purposes of identifying the assumptions to be used in the Pre-CERP Baseline through a consensus process. Presentations of regional modeling results of various scenarios have framed the ramifications of outstanding issues.

An interagency team, along with a sub-committee of WRAC, has been formed to help identify the Pre-CERP base case assumptions. This team has held numerous meetings in order to identify and discuss outstanding issues presented in Appendix D. A diagram of the Pre-CERP Baseline identification process is presented below:



C. Identification of Existing Legal Sources as of December 2000

WRDA 2000 includes assurance language that provides for protection of existing legal sources as of the date of enactment, December 11, 2000, as identified in Section 601(h)(5). These existing legal source considerations include agricultural and urban water supply, allocation or entitlement to the Seminole Tribe of Florida, the Miccosukee Tribe, water supply for Everglades National Park and water supply for fish and wildlife.

Since WRDA 2000 specifically requires protection of existing legal sources as of the date of enactment, identification of existing legal sources will require the development of a Pre-CERP Baseline condition that can be simulated using the SFWMM under 2000 conditions. The documentation of existing legal sources, based on the Pre-CERP Baseline condition, will be used for comparison during the design of each CERP project to determine whether the eventual implementation of the project will result in an elimination or transfer of the existing legal source.

The proposed existing legal source definition below is the result of public process meetings involving inter-agency representatives and sub-committee members of WRAC; however, no formal consensus has been reached on this proposed definition:

For purposes of implementing the "Savings Clause" in Section 601(h)(5)(A) of WRDA 2000, "existing legal sources" are the sources of water available to a water user basin within the South Florida ecosystem from all locations (including seepage, surface water, and groundwater) used as a water supply, including the water necessary for protection of the source of supply, as of December 11, 2000, consistent with Federal and State law, for:

- (1) an agricultural or urban water supply;
- (2) allocation or entitlement to the Seminole Tribe of Florida under section 7 of the Seminole Indian Land Claims Settlement Act of 1987 (25 U.S.C. 1772e);
- (3) the Miccosukee Tribe of Indians of Florida;
- (4) water supply for Everglades National Park; or
- (5) water supply for fish and wildlife.

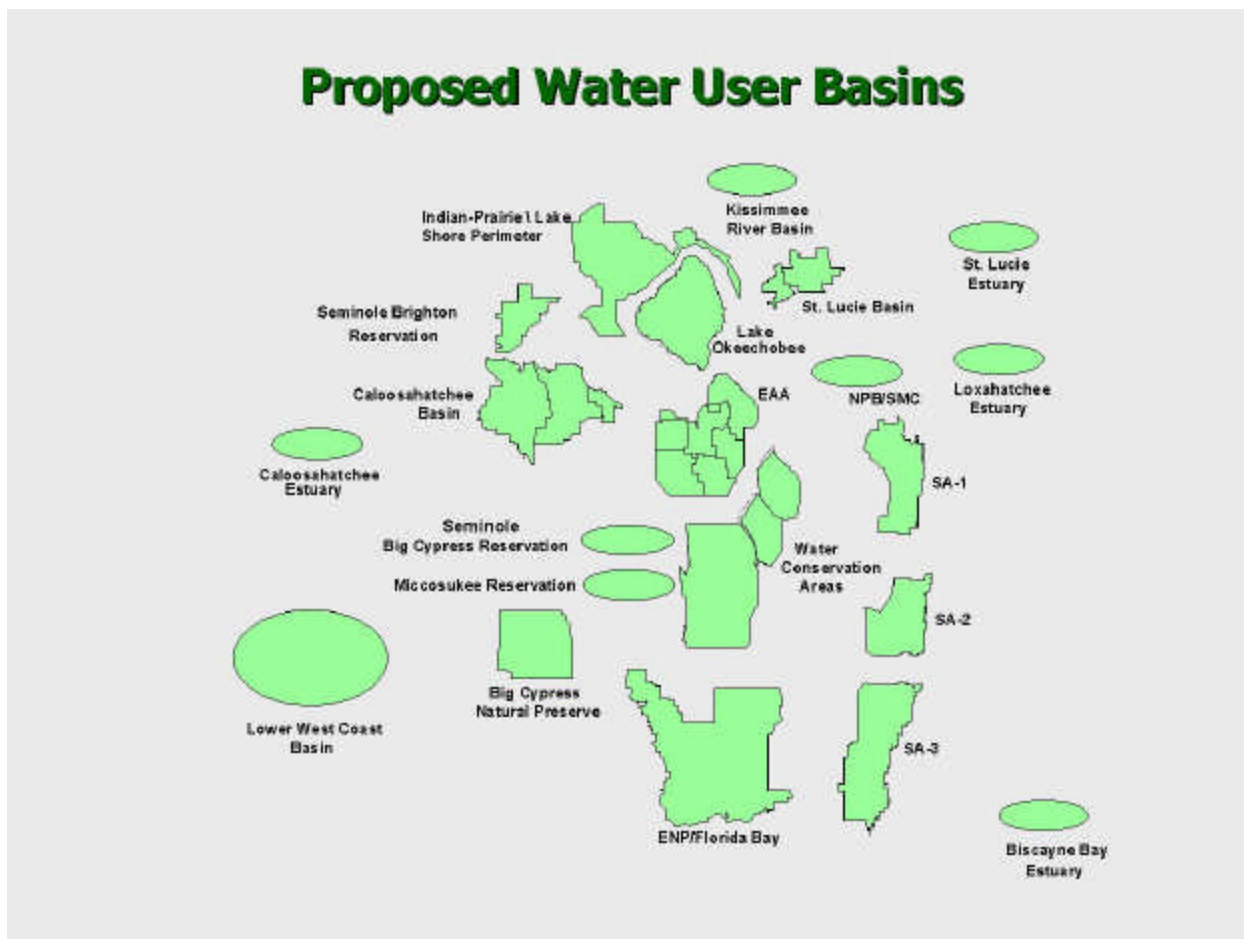
Note:

"Existing legal sources are proposed to be documented under the full range of historical rainfall conditions to determine the water available under the operational, structural and demand conditions that existed as of December 2000. The *April 1999 C&SF Project Comprehensive Review Study* considered a hydrologic period of record of 1965 through 1995. This 31-year historical rainfall period of record, which included wet, average and dry rainfall periods, was used to estimate the performance of various CERP components relative to water supply, ecosystem restoration and some limited flood protection. The SFWMM is currently being updated to expand the hydrologic (rainfall) record to 36 years from 1965 through December 2000, and this is proposed to be the tool and historical rainfall period of record used in the determination of existing legal sources consistent with the future CERP performance analysis. Sub-regional models, using a similar historical rainfall period of record, will need to be developed to address existing legal sources for CERP projects outside of the regional model boundary. Future updates to the SFWMM will continue to expand the historical rainfall period, typically every five years.

The primary available sources of water include: 1) local surface water storage; 2) groundwater from the Biscayne and other aquifers; 3) surface water discharge and groundwater seepage from the Water Conservation Areas; and 4) surface water from Lake Okeechobee. One or more of these sources have been utilized for the protection of fish and wildlife, or as a water supply source for urban, agricultural, or Tribal uses, depending on wet, average or dry rainfall conditions. Spatially separating the major regions of the C&SF project into water user basins in order to properly determine each entity's existing legal sources is proposed. Proposed water user basins are described in Table 1 and shown in the figure below:

Table 1. Spatial Identification of Water User Basins

WATER USER BASINS	SOURCE DEPENDENCE			
	WCAs	Lake Okeechobee	Local Basin Storage/Run off	Surficial Aquifer
Agriculture				
a. Indian Prairie/Lake Shore Area		X	X	
b. EAA	X	X	X	
c. Calooshatchee		X	X	
d. St. Lucie		X	X	
Seminole Tribe				
a. Brighton Reservation		X	X	
b. Big Cypress Reservation		X	X	
Miccosukee Tribe				
a. Miccosukee Reservation	X		X	
Environmental				
a. Big Cypress Nat'l. Preserve	X		X	X
b. WCAs 1,2,3	X	X	X	X
c. ENP	WCA3	X	X	X
d. Holey Land		X	X	
e. Rotenberger			X	
f. Caloosahatchee Estuary		X	X	
g. St. Lucie Estuary		X	X	X
h. Loxahatchee Estuary			X	X
i. Biscayne National Park	X	X	X	X
j. Florida Bay	X	X	X	X
k. Lake Okeechobee		Kiss.River	X	
l. Kissimmee River			X	
Urban				
a. Service Area 1	WCA 1	X	X	X
b. Service Area 2	WCA2B	X	X	X
c. Service Area 3	WCA3B	X	X	X
d. N. Palm Bch Co./S. Martin Co.			X	X
e. Lower West Coast Basin			X	X



D. Quantification of Existing Legal Sources Through Development of the December 2000 Pre-CERP Baseline

Under the December 2000 Pre-CERP Baseline condition, agriculture, urban and environmental systems receive a certain quantity, quality, timing and distribution of water from various sources including upstream inflows, tributary basin runoff and direct rainfall. The hydropatterns of the existing natural systems and the performance of water supply are reflective of the operational policies in place for the region as defined by Federal regulation schedules, conveyance limitations, water control structure hydraulics for flood protection, water supply, resource protection and natural system deliveries. These operational protocols are also reflective of existing consumptive use demands and non-consumptive use delivery requirements from the regional system under the Pre-CERP Baseline condition.

The December 2000 Pre-CERP Baseline will be simulated at the project and system-wide level to estimate the amount of water available to the natural system and other uses assuming historical rainfall conditions of 1965 through 2000, along with the baseline condition structural components, operational protocols, consumptive use withdrawals and water shortage policies in place as of December 2000. The performance of the system as of December 2000 will be

documented under historical wet, average and dry rainfall conditions. This performance will be documented by a combination of agreed upon performance criteria for water supply and fish and wildlife protection for the natural system.

Regulatory discharges to tide from the various water user basins will be excluded from consideration under these agreed upon performance criteria. Therefore, these discharges will be excluded in the existing legal source definition, if these discharges were not depended upon by consumptive uses, or were not beneficial to the natural system, under historical rainfall conditions. A significant portion of these regulatory discharges will eventually be captured as part of the CERP program.

These performance measures will be identified for the water user basins identified above, and will be consistent with performance measures used in the *April 1999 C&SF Project Comprehensive Review Study* and the *LECRWSP*, updated to include new science. The key performance measures that will be used to quantify existing legal sources are identified below:

- **Kissimmee River Basin** – Volume delivered which falls within flow restoration targets
- **Lake Okeechobee** – Volume delivered which falls within desired lake stage targets which are beneficial to fish and wildlife
- **LOSA Agricultural Areas** – Demands not met, volumes delivered from Lake Okeechobee
- **Urban Service Areas** – Water shortage frequencies, volumes delivered from respective WCA's and Lake Okeechobee
- **Estuaries** – Volume delivered which falls within desired salinity envelopes
- **WCA's** – Number and spatial location of NSM hydropattern matches, volume delivered from Lake Okeechobee, and volume delivered from EAA/STAs which is beneficial to fish and wildlife.
- **Big Cypress National Preserve** - Number and spatial location of NSM hydropattern matches
- **ENP** – Number and spatial location of NSM hydropattern matches; beneficial volume delivered from WCAs
- **Seminole Tribe** – Demands not met, entitlement met, deliveries from Lake Okeechobee
- **Miccosukee Tribe** – Water supply for Miccosukee Tribe to the extent required by Federal law

In addition to the identification and quantification of source water for each water user basin outlined above, the project delivery teams will also be responsible for water quality assessments that provide a reasonable characterization of the December 2000 quality of the source water. Not every impact on water quality should be attributed to mean an impact that causes the water to be unusable for the purpose it had been used for as a source on December 2000. This water quality characterization will be used for future comparisons if a CERP project transfers a source in the water user basins identified in Table 1.

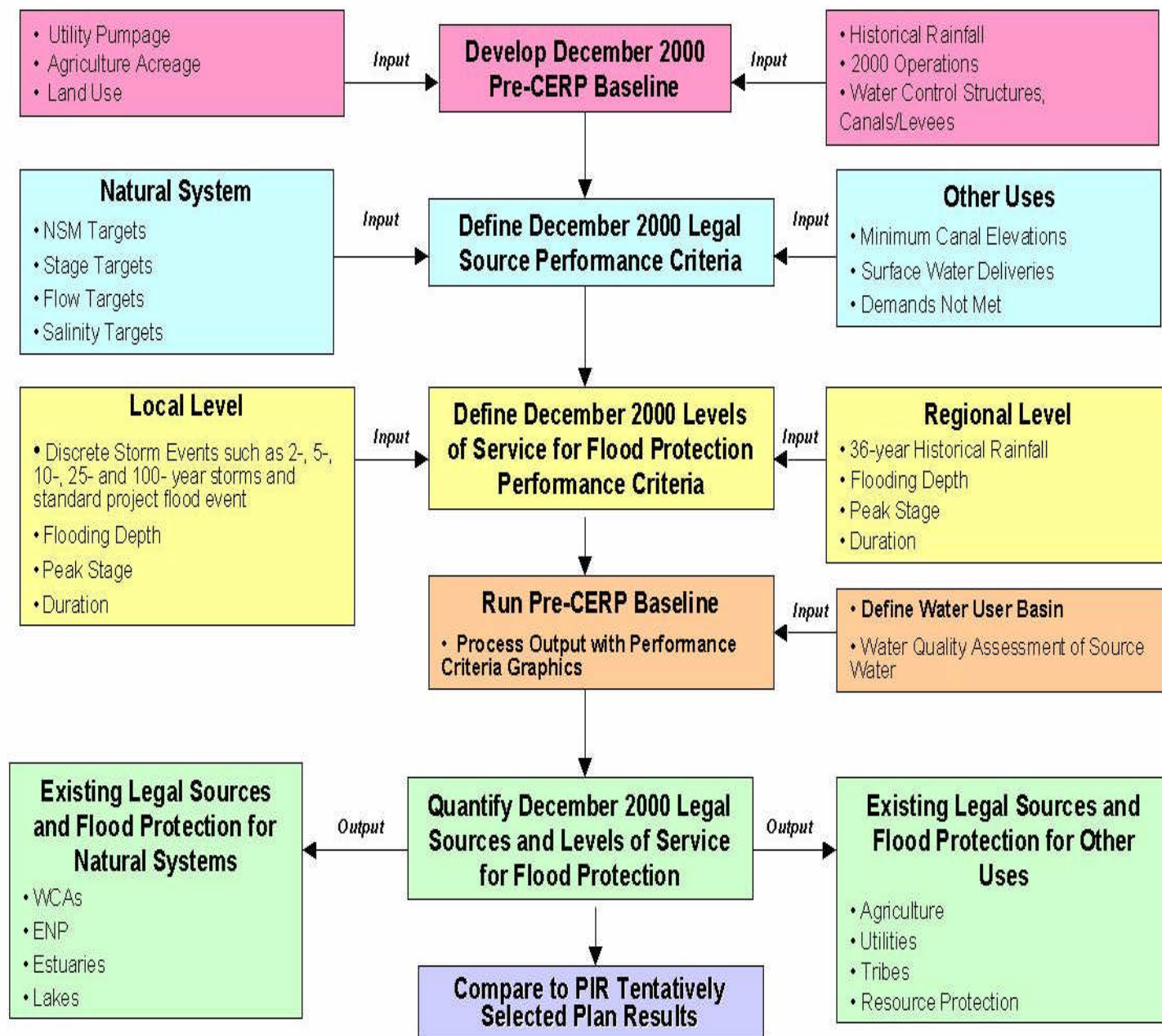
E. Identification and Quantification of Levels of Service for Flood Protection Existing as December 2000

Section 601(h)(5) states that implementation of the CERP plan shall not reduce the levels of service for flood protection that were in existence on the date of enactment of WRDA 2000 and in accordance with applicable law.

The level of service for flood protection existing as December 2000 will be estimated in the Pre-CERP Baseline assumptions by reflecting the topography, land uses, canal systems and water control structure hydraulics of the regional system. The December 2000 levels of service for flood protection will be quantified by post-processing the output from the SFWMM and project level models to reflect the system performance of the region over the 36 year period of historical rainfall. Outputs from the SFWMM, such as ponding depth and ponding duration, are proposed to be similar to those used in the development of the CERP and the *Lower East Coast Regional Water Supply Plan*. In addition to the regional model estimate of the levels of service for flood protection for CERP projects that fall outside the regional model boundaries, project level models will typically document the flood protection performance within the basin for which the CERP project will be designed based on December 2000 conditions. Performance measure outputs of the site-specific models, when appropriate, are proposed to be flooding depth, peak stage, and duration from discrete storm events that may include 1:2, 1:5, 1:10, 1:25 and 1:100 year storms, and the standard project flood (SPF) condition. The identified December 2000 levels of flood protection cannot be diminished in the future as a result of the implementation of a CERP project as discussed in Section IV.

The following flowchart summarizes the basic precepts in the identification and quantification of existing legal sources of water and the levels of service for flood protection existing as December 2000 through the development of the Pre-CERP Baseline.

Identification and Quantification of Existing Legal Sources of Water and Levels of Service of Flood Protection Existing As of December 2000 Through the Development of the Pre-CERP Baseline



VI. Identification and Quantification of Existing Legal Users, Flood Protection Levels of Service and Natural System Performance through Time by Development of the Existing Condition PIR Baseline

A. Background

Identification and quantification of existing legal users and levels of service for flood protection through the development of Existing Condition PIR Baseline is proposed for complying with Section 373.1501(5) F.S. Furthermore, State law requires protection of existing legal users when establishing water reservations for the natural system; therefore, these existing users must be considered as a base assumption as each PIR is developed. The Existing Condition PIR Baseline will also be used as an indicator of the present system performance at the time of the PIR initiation; therefore, this baseline will also serve as a reference point for identifying the goals and objectives of the PIR project.

The criteria for State approval of CERP projects related to water supply requires that prior to transmittal of a PIR to Congress for approval and prior to the appropriation of State funds for construction, the South Florida Water Management District to "...provide reasonable assurances that the quantity of water available to existing legal users shall not be diminished by implementation of project components so as to adversely impact existing legal users..." . This requirement necessitates a quantification of the amount of water permitted to all existing legal users at the time a PIR is initiated. This quantification will be included in the Existing Condition PIR Baseline run which will be compared to the tentatively selected plan to examine the potential impact of a proposed project on the quantity and quality of water for the existing legal users. Furthermore, the levels of service of flood protection at the time the PIR is initiated must be documented so that it is assured that a proposed CERP project does not diminish this level of service through implementation of the project.

B. Developing the Existing Condition PIR Baseline

The Existing Condition PIR Baseline will be developed by updating the SFWMM to reflect the operational, structural, land use, and consumptive use withdrawal configurations of the South Florida ecosystem that exist at the time of initiation of each PIR. These updates will also include structural and operational features of previously constructed PIRs, constructed non-CERP projects with approved operational plans (e.g. C-111, Modified Water Deliveries, STAs, etc.), other non-CERP operational changes (e.g., rainfall driven formulas, etc., and permitted quantities of consumptive users) which coincide with the time of PIR initiation.

C. Identification and Quantification of Existing Legal Users

The permitted allocations of existing legal users corresponding to the timeframe of PIR initiation and the permit conditions will be included in the Existing Condition PIR Baseline assumptions, and their performance will be quantified by post-processing the output from the SFWMM. Under State law, existing legal users are those that have a consumptive use permit or are exempt from permitting requirements, such as domestic users. If the permit allocation influences regional system seepage and is contingent upon the permittee first implementing alternative

sources to offset any increased regional seepage, then the assumptions in the model will be either: 1) a portion of the permit allocation based on the existing level of offset already implemented at the time of the PIR, or 2) the full permit allocation, if the full offset has been implemented. For allocations that influence the regional system which are not contingent upon some initial action by the permittee, then the assumption in the models will be for the full permit allocation.

The modeling output will be processed into a discrete set of performance measures that reflect the water supply performance for the existing legal users. For water users outside of the limits of the regional model, site-specific integrated surface water and groundwater models will be developed with similar performance measures. These performance measures are proposed to be similar to those used in the development of the CERP and the *Lower East Coast Regional Water Supply Plan*. The same geographic areas will be used as outlined in Section V as water user basins, however, only for the water supply related basins. Specifically, the following basins are proposed:

Water User Basins for Existing Legal User Protection

- Everglades Agricultural Area Basin
- St. Lucie Agricultural Basin
- Indian Prairie/Lake Shore Area Basin
- Caloosahatchee Agricultural Basin
- Service Area 1
- Service Area 2
- Service Area 3
- Northern Palm Beach County Basin
- Seminole Tribe Reservations
- C-23, C-24, C-25 Basins (IRL)
- South West Florida Basins
- Kissimmee River Basin

Performance measure output will generally consist of the frequency of water shortages over the rainfall period of record, demands not met, and a characterization of the water quality of the existing supply.

D. Identification and Quantification of Levels of Service for Flood Protection

The levels of service for flood protection, relevant under State law, will be included in the Existing Condition PIR Baseline assumptions by reflecting the topography, land uses, operations, canal systems and water control structure hydraulics of the regional system. The levels of service for flood protection will be quantified by post-processing the output from the SFWMM to reflect system performance of the region over the 36-year period of historical rainfall. Output from the regional model is proposed to be similar to that used in the development of the CERP and the *Lower East Coast Regional Water Supply Plan*, such as ponding depth and ponding duration. Additionally, the site-specific models for each project will document the flood protection within the basin for which the project will be designed. Outputs of the site-specific

models are proposed to be flooding depth, peak stage and duration during discreet storm events if required, including 1:2, 1:5, 1:10, 1:25 and 1:100 year storms, and the standard project flood condition (SPF).

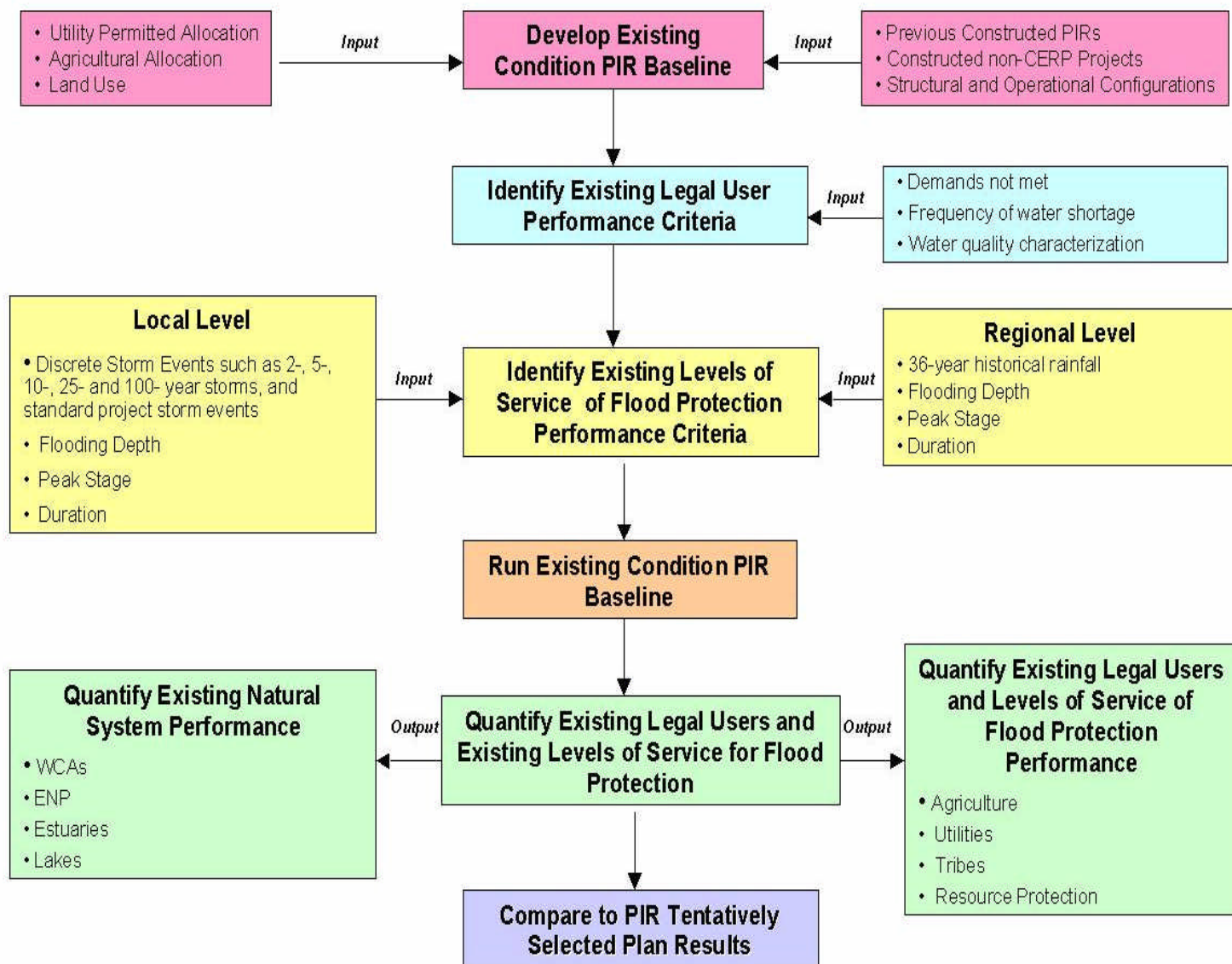
E. Identification and Quantification of Existing Natural System Performance

Generally, the SFWMM will be used to document the environmental performance of the regional system through the Existing Condition PIR Baseline. At the project level, site-specific integrated surface water and groundwater models will be developed to document the environmental attributes of the existing natural system. The existing condition of the natural system will be documented through performance measures such as NSM hydropattern matches, ponding depth, ponding duration, volumes delivered which fall within appropriate salinity envelopes, etc. for future comparison of the existing condition with the tentatively selected plan of the draft PIR (Section VII).

The following flow chart summarizes the basic precepts in the identification and quantification of existing legal users, flood protection levels of service and natural system performance through time by development of the Existing Condition PIR Baseline

1
2

Identification and Quantification of Existing Legal Users and Flood Protection Levels of Service Through Time by Development of Existing Condition PIR Baseline



3
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9

VII. Protection of Existing Legal Sources and Levels of Flood Protection Existing as of December 2000; and Protection of Existing Legal Users and Existing Levels of Service for Flood Protection through Time During Development of the PIR Tentatively Selected Plan

A. Background

Development of the PIR tentatively selected plan will begin by adding previously approved but not constructed CERP and non-CERP projects to the Existing Condition PIR Baseline. Next, 2050 demands and land use will be estimated for agriculture, urban and natural system uses. Regional and project specific computer models may be utilized and developed which contain the site characteristics of the proposed CERP projects such as available storage, inflow and outflow structures. A set of operational rules will be developed for determining how, when and where water is discharged into and out of the proposed facility. In addition, a set of historical rainfall data will be applied which typically reflect wet, average, and dry rainfall conditions unique to the proposed spatial location of the proposed facility. The data sets described above will be included in the model simulations. Once these simulations are completed, the model output will be post-processed to generate graphical formats consistent with the identified evaluation criteria and the results will be reviewed. Several iterations of tentatively selected plan analysis through model simulations may be necessary to optimize the performance of the proposed facility, taking into account the goals and objectives defined for flood protection, water supply, water quality, and natural system restoration. Once complete, this analysis will result in the draft PIR tentatively selected plan. A flow chart summarizing this process is located at the end of this section.

As the tentatively selected plan is developed through the PIR, the first test will be to determine whether the plan meets the goals and objectives of CERP. If so, the next steps will be to compare the performance of the PIR tentatively selected plan with the performance measures identified in Sections V and VI to determine whether: 1) an elimination or transfer of the quantity or quality of existing legal sources, or a reduction of flood protection existing as of December 2000 has occurred; 2) a reduction in the water supply performance of existing legal users has occurred; or 3) the level of flood protection has been diminished outside the geographic area of the project. This action is intended to satisfy the requirements of Section 601(h)(5) of WRDA 2000 and Section 373.1501(5) F.S.

B. Protection of Existing Legal Sources from Elimination or Transfer as of December 2000 During Development of the PIR Tentatively Selected Plan

WRDA 2000 states: "until a new source of water supply of comparable quantity and quality as that available on December 2000 is available to replace the water to be lost as a result of implementation of the Plan, the Secretary and the non-Federal sponsor shall not eliminate or transfer existing legal sources of water." Some CERP projects will provide additional storage to capture excess storm water, while other projects will reduce losses from a basin, such as through seepage control. Both types of projects may result in an elimination or transfer of water; however, the water quantity or quality implications of these types of projects may be quite different. While additional storm water storage may have large volume benefits, the water

1 quality may be less than desirable dependent on the ultimate use. Conversely, seepage control
2 may not deliver additional water, but will retain more groundwater in a water user basin with
3 fewer potential water quality issues, especially for environmental areas.

4
5 In order to evaluate a proposed CERP project's potential impact on a water user basin, the
6 SFWMM or sub-regional models will initially be used to determine the effects of the proposed
7 design on existing legal sources. However, because the PIR contains future land use, demands,
8 and non-CERP projects, the PIR tentatively selected plan must first be normalized. This
9 normalization will occur by inserting the tentatively selected plan structural and operational
10 features along with the other previously approved CERP projects into the December 2000 Pre-
11 CERP Baseline which contains the 2000 demands and land use. The same existing legal source
12 performance measures agreed upon from the output of the December 2000 Pre-CERP Baseline
13 should be generated by the models reflective of the design of the proposed CERP project prior to
14 finalization of the PIR. The performance measures of the normalized PIR tentatively selected
15 plan should then be compared to the existing legal source performance measures of the Pre-
16 CERP Baseline and a determination made as to whether there has been an elimination or transfer
17 of the existing legal source for any water user basin.

18
19 An assessment of water quality will also need to be developed providing a reasonable estimate of
20 the expected water quality of the proposed project. This water quality assessment, conducted
21 either by using monitoring data or from specialized water quality models, will then be used to
22 compare the change in water quality of the proposed project with the original water quality of the
23 source water identified in Section V. If there is an elimination or transfer of water caused by the
24 project, then the predictive quality of the water generated by the proposed project (i.e.,
25 replacement source) must be of comparable quality to that of the existing source.

26
27 If the existing legal source has not been eliminated or transferred by the proposed CERP project,
28 the PIR tentatively selected plan should: 1) contain all the necessary documentation supporting
29 the conclusion; and 2) affirm that the existing source water is not eliminated or transferred by the
30 project.

31
32 However, if the existing legal source has been eliminated or transferred by the tentatively
33 selected plan, the PIR should: 1) document the performance measures of the water user basins
34 subject to the elimination or transfer; 2) identify the new or replacement source; 3) document
35 how the project, as designed, makes up for the volume eliminated or transferred; 4) provide a
36 water quality analysis documenting that the water quality of the new source water from the
37 proposed project will be comparable to that of the existing source water quality; 5) affirm that
38 the existing source volume will not be transferred or eliminated until final construction testing
39 and operations of the proposed facility; and 6) include revised water user basin performance
40 measures for the affected basins which would be used by subsequent PIRs.

41
42 **C. Protection of Levels of Service for Flood Protection Existing as of December 2000**
43 **During Development of the PIR Tentatively Selected Plan**
44

45 Federal law provides a savings clause for maintenance of flood protection as of December 2000.
46 Specifically, Section 601(h)(5) states that implementation of the CERP plan shall not reduce the

1 levels for flood protection that are in existence on the date of enactment of WRDA 2000, and in
2 accordance with applicable law.

3
4 The levels of service of flood protection existing as of December 2000 will be documented in the
5 Pre-CERP Baseline as discussed in Section V. Potential impacts to the levels of service for flood
6 protection will be determined by normalizing the output from the tentatively selected plan. This
7 normalization will be accomplished by inserting the tentatively selected plan, plus all the
8 previously approved CERP projects into the December 2000 Pre-CERP Baseline. Since the
9 SFWMM consists of a 2-mile by 2-mile grid system, only a general indication of flood
10 protection can be determined through regional analysis. For that reason site specific integrated
11 ground and surface water models may also be developed for each PIR for specific analysis of
12 levels of service for flood protection.

13
14 The same general water user basin areas as outlined in Section V will be used by the SFWMM or
15 sub-regional models to evaluate the potential for flooding impacts caused by a proposed project.
16 Site specific models utilized for evaluation within the geographic influence of the proposed
17 project will also need to be scrutinized for potential flooding depending on the effects of the
18 proposed project.

19
20 Outputs from the regional model are proposed to be similar to those used in the development of
21 the CERP and the *Lower East Coast Regional Water Supply Plan*, such as ponding depth and
22 ponding duration. Additionally, the site-specific models will document the flood protection
23 levels of service within the basin for which the project will be designed. Output of the site-
24 specific models may be flooding depth, peak stage and discreet storm events including 1:2, 1:5,
25 1:10, 1:25 and 1:100 year storms, and the standard project flood (SPF).

26
27 If analysis of the output of the tentatively selected plan indicates no reduction in level of service
28 for flood protection existing as of December 2000 within the identified basins or site specific
29 areas has occurred, the PIR should: 1) contain all the necessary documentation supporting the
30 conclusion; and 2) affirm that December 2000 levels of flood protection have not been
31 diminished.

32
33 If analysis of the tentatively selected plan determines that the levels of service of flood protection
34 existing as of December 2000 have been diminished within the identified basins or site specific
35 areas then the tentatively selected plan should be revised to retain the levels of service of flood
36 protection.

37 38 **D. Protection of Existing Legal Users During Development of the PIR Tentatively** 39 **Selected Plan**

40
41 One of the criteria for State approval of CERP projects prior to transmittal of a PIR to Congress
42 for approval and the appropriation of State funds for construction, requires the South Florida
43 Water Management District to "...provide reasonable assurances that the quantity of water
44 available to existing legal users shall not be diminished by implementation of project
45 components so as to adversely impact existing legal users..." Section 373.1501(5)(d), F.S.
46 Therefore, the PIR must include an analysis of the potential impact of a proposed project on the

1 quantity and quality of water available to existing legal users. In addition, State law requires
2 protection of existing legal users when establishing water reservations for the environment to the
3 extent that such uses are not contrary to the public interest; therefore, the tentatively selected
4 plan must demonstrate protection of the existing legal users prior to reserving the water made
5 available by the proposed project for the protection of fish and wildlife.

6
7 These requirements will be met by comparing the water supply performance measures of the
8 draft PIR tentatively selected plan with the water supply performance measures quantified in the
9 Existing Condition PIR Baseline for existing legal user protection (Section VI. C). Before
10 making this comparison, the PIR tentatively selected plan must first be normalized to the
11 demands and land use of the Existing Condition PIR Baseline. Therefore, the PIR tentatively
12 selected plan's structural and operational features along with the other previously approved
13 CERP projects will be inserted into the Existing Condition PIR Baseline that contains the
14 existing legal users and existing levels of flood protection for comparison. This comparison will
15 be done for each water user basin identified in the Section V. C. As mentioned previously, this
16 analysis may be performed using the SFWMM if the PIR tentatively selected plan is located
17 within its boundary or by more site-specific models if the PIR tentatively selected plan is outside
18 its boundary or by a combination of the two.

19
20 Water quality considerations should also be predicted for the tentatively selected plan to
21 determine if the water provided by the tentatively selected plan protects existing legal users and
22 is acceptable for the intended use as described in Section VII. B.

23
24 If analysis of the performance measures of the PIR tentatively selected plan determines that the
25 quantity and quality of water available to existing legal users has not been diminished so as to
26 adversely impact existing legal users, the PIR should: 1) contain all the necessary documentation
27 supporting the conclusion; and 2) affirm that all existing legal users are not adversely impacted
28 consistent with State law.

29
30 **E. Protection of Levels of Service for Flood Protection Through Time During**
31 **Development of the PIR Tentatively Selected Plan**

32
33 The State of Florida provided assurances for flood protection in Section 373.1501(5)(a) and (d)
34 which requires the SFWMD, as the C&SF local sponsor to:

- 35
36 (a) Analyze and evaluate all needs to be met in a comprehensive manner and consider all
37 applicable water resource issues, including water supply, water quality, flood protection,
38 threatened and endangered species, and other natural system and habitat needs.
39
40 (d) Consistent with this chapter, the purposes for the Restudy provided in the Water
41 Resources Development Act of 1996, and other applicable Federal law, provide
42 reasonable assurances that.... "existing levels of service for flood protection will not be
43 diminished outside the geographic area of the project component".
44

45 The levels of flood protection at the time the PIR is initiated will be documented through
46 development of the Existing Condition PIR Baseline as discussed in Section VI. Potential

1 impacts to the levels of service for flood protection will be determined by normalizing the output
2 from the tentatively selected plan. This normalization will be accomplished by inserting the
3 tentatively selected plan plus all the previously approved CERP projects into the Existing
4 Condition PIR Baseline. Since the SFWMM consists of a 2-mile by 2-mile grid system, only a
5 general indication of flood protection can be determined through regional analysis. For that
6 reason, site specific integrated ground and surface water models may also be developed for each
7 PIR for specific analysis of levels of service for flood protection.
8

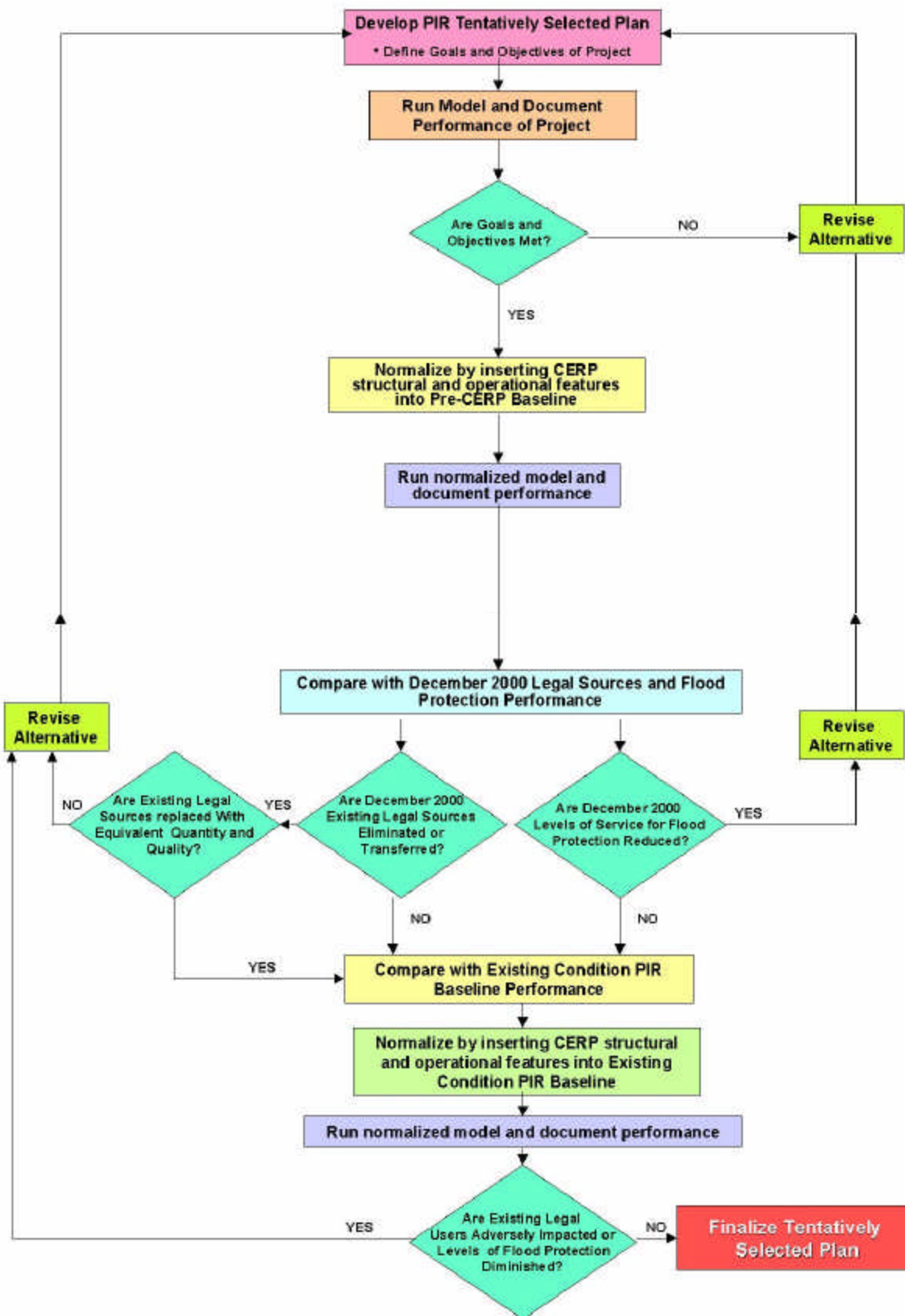
9 The same general water user basin areas as outlined in Section V will be used by the SFWMM to
10 evaluate the potential for flooding impacts caused by a proposed project. Site specific models
11 utilized for evaluation within the geographic influence of the proposed project will also need to
12 be scrutinized for potential flooding depending on the effects of the proposed project.
13

14 Outputs from the regional model are proposed to be similar to those used in the development of
15 the CERP and the *Lower East Coast Regional Water Supply Plan*, such as ponding depth and
16 ponding duration. Additionally, the site-specific models will document the flood protection
17 levels of service within the basin for which the project will be designed. Output of the site-
18 specific models may be flooding depth, peak stage and discreet storm events including 1:2, 1:5,
19 1:10, 1:25 and 1:100 year storms, and standard project flood (SPF).
20

21 If analysis of the output of the tentatively selected plan determines no reduction in the existing
22 level of service for flood protection within the identified basins or site specific areas has
23 occurred, the PIR should: 1) contain all the necessary documentation supporting the conclusion;
24 and 2) affirm that levels of flood protection have not been diminished.
25

26 If analysis of the tentatively selected plan determines that the levels of service of flood protection
27 have been diminished within the identified basins or site specific areas then the tentatively
28 selected plan should be revised to retain the levels of service of flood protection. However, no
29 protection should be required for incidental flood protection benefits not specified in the project
30 design.
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**Protection of Existing Legal Sources and Levels of Flood Protection as December 2000; and
Protection of Existing Legal Users and Existing Levels of Service of Flood Protection
Through Time by Development of the PIR Tentatively Selected Plan**



VIII. Quantification of Additional Water Made Available for the Natural System and Other Uses through the Development of the Draft PIR

A. Background

WRDA 2000 Section 601(h)(4)(A) requires that a PIR identify the appropriate quantity, timing, and distribution of water dedicated and managed for the natural system, and identify the amount of water to be reserved or allocated for the natural system. State law through Section 373.470(3), F.S. requires that each PIR identify the increase in water supplies resulting from a project component.

The natural system and human water supply benefits of a CERP project should be reflective of the expected performance of a facility or a group of facilities. These benefits are typically judged by the ability of a facility to improve, or meet a set of agreed upon performance measures consistent with restoration, water supply and flood protection goals.

Since the projects that comprise CERP are designed to work together to achieve the system-wide goals and purposes of CERP, in most cases, the quantification of benefits should be done on a system-wide basis in addition to a project by project basis. For example, projects such as the Indian River Lagoon, Lake Okeechobee Watershed, and the EAA Storage Reservoirs, have significant effects outside of their location. It is important that the identification of project benefits be made for the entire system, and not just for the project itself, or the area where it is located. Additionally, for some projects, such as the seepage management projects, the amount of water made available by the project may not be readily determined unless a system-wide analysis is done. Lastly, some projects, such as Decompartmentalization of WCA 3, may not make additional water available.

The system-wide approach requires using system-wide hydrologic tools, such as the SFWMM, also avoids the potential for a double accounting of the additional water made available through time that may occur if separate localized models are used. The system-wide approach will also make it easier to assess, or modify, the amount of water needed for the natural system based on the results of the adaptive management program. There are some exceptions to the system-wide approach. For those projects that are not physically interconnected to the features of the C&SF system (e.g., Southern Golden Gate Estates Project), identification of water to be made available for the natural system should be done on a project-level basis.

The additional water made available by a proposed project will be estimated by a series of performance measures reflecting the natural system and water supply benefits. These benefits will be documented over the full range of dry, average and wet conditions based on historical rainfall trends. The increase in water made available by a proposed project will be quantified by comparing the tentatively selected plan, with and without the proposed project, against the Existing Condition PIR Baseline and documenting the difference in the PIR.

B. Proposed Performance Measures

The proposed performance measures for quantifying the additional water made available for the natural system and other uses are shown below:

- **Kissimmee River Basin** – Volume delivered which falls within flow restoration targets
- **LOSA Agricultural Areas** – demands not met, volumes delivered from Lake Okeechobee
- **Urban Service Areas** – Water shortage frequencies, volumes delivered from respective WCAs and Lake Okeechobee
- **Estuaries** – Volume delivered which falls within desired salinity envelopes (Loxahatchee, Biscayne Bay and Florida Bay need additional work to define)
- **WCAs** – number and spatial location of NSM hydropattern matches, volume delivered from Lake Okeechobee, and volume delivered from EAA which is beneficial to fish and wildlife
- **ENP** – number and spatial location of NSM hydropattern matches, total flow across Tamiami Trail, deliveries from Lake Okeechobee
- **Seminole Tribe** – demands not met, entitlement met, deliveries from Lake Okeechobee
- **Miccosukee Tribe** - number and spatial location of NSM hydropattern matches for natural system areas

IX. Protection of Additional Water Made Available by CERP for Natural Systems through State Water Reservations and Other Uses through State Law

A. Background

This section discusses the process for protecting the water made available by CERP for the natural system and other uses. WRDA 2000 requires that water for the natural system be identified for each project in the PIR process and that a reservation or allocation of water made available for natural system be executed prior to the Project Cooperation Agreement (PCA) being signed. Furthermore, Section 373.470(3) F.S., requires that each PIR identify the increase in water supplies resulting from a project component, and that the additional water supplies be allocated or reserved by the SFWMD under Chapter 373, F.S. authority.

B. Development of State Water Reservation

For natural systems, the reservation process will provide assurances the water made available by a CERP project that is directed to the natural system is set aside from allocation and that existing legal users are protected. Furthermore, the reservation should specify that the reserved water is not required to be delivered until a final operating manual is developed and approved by the South Florida Water Management District and U.S. Army Corps of Engineers, and the facility is fully tested and operational.

Since the PIR is a preliminary design document that is followed by detailed designs, construction, and final operating manuals, there is a high probability that the ultimate

performance of the project may change. This change may affect the amount of water initially reserved for the natural system. The final performance of the project may also affect the amount of water available for consumptive users as estimated by the PIR. Likewise, RECOVER may identify, through time, additional facilities or operational changes that will fine tune the natural system benefits of a particular project which may require revisions to the existing water reservation. Therefore, the reservation should be conditioned upon reevaluating the performance of the project once constructed and operational.

Based on this information in the PIR, the reservation should include the following as an example:

- 1) The original source of reserved water** (e.g. IRL storage reservoir);
- 2) The potential conveyance routes of the reserved water** (e.g. IRL storage reservoir to C-44 connector canal, to C-44, to C-44 STA, to Lake Okeechobee surface water, to Floridan Aquifer via ASR, to Lake Okeechobee surface water via ASR, to Miami canal via S-3, to Water Conservation Area 3 via S-8);
- 3) The primary fish and wildlife benefit of the reserved water** (e.g. reduced inflow to Indian River Lagoon and WCA 3 hydropattern improvement);
- 4) Whether the proposed CERP project eliminates or transfers existing legal sources or diminishes levels of service of flood protection existing as of December 2000, and the identity of the new source and when the new source will become available** (e.g. the St. Lucie Agricultural Area current supply source is C-23 Canal with an allocation of xx acre-feet; IRL reservoir supplies xx acre-feet under one in ten year conditions; shift agricultural users water source from C-23 to IRL reservoir once project is completed, and tested and operational);
- 5) Whether the proposed CERP project increases the water supply to other uses, the source of the additional water and when the quantity will be available;**
- 6) Inclusion of all relevant performance measures used in the quantification of additional water made available for the natural system as discussed in Section VI.**

C. Relationship of Quantification of Water to be Reserved and Operating Manuals

System-wide operations may also be modified as a new project is designed and implemented. During the design of the project, operations of the regional system should be included in the analysis and necessary changes should be documented. After the project is constructed and operational, and concurrent with the development of the final operating manual, revisions to the existing system-wide operating manual should be made to reflect the addition of the new CERP project in accordance with approved protocols and procedures.

It should be noted that the quantification and accounting of water needed to be reserved, as reflected in the PIR design, could vary from the actual project performance after project construction and during the operation phase. During the PIR development process, evaluations are done on a predictive basis, based on assumptions that the projects recommended in all previously authorized PIRs are in place. This allows comparison of the effect of a project combined with the other authorized CERP projects to the conditions prior to CERP (i.e., Pre-CERP Baseline condition) and the Existing Condition PIR Baseline. Operations for a project

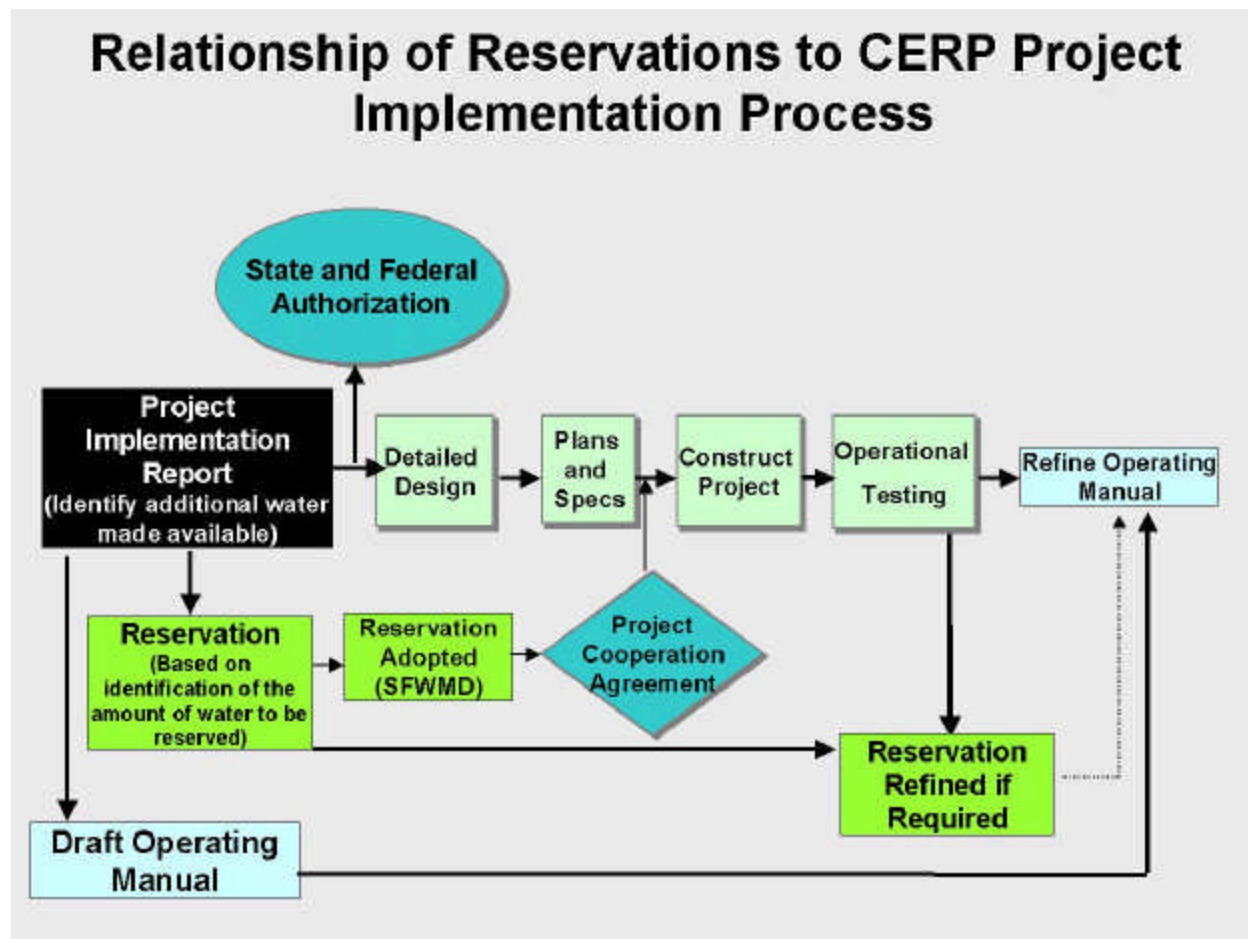
will be refined when construction and testing are complete to optimize the operation of the C&SF project, along with those projects in place and operational.

The optimization of the tentatively selected plan will serve as the basis for not only quantifying the water to be reserved, it will also be the model simulation from which the draft project operating manual will be derived. This draft operating manual will be a part of the PIR, and will be consistent with the quantification of water to be reserved.

It is anticipated that the draft operating manual will be refined through the detailed design and construction phases of project implementation while continuing to meet the operation goals as described in the PIR. Once a project is constructed and the operational/testing phase is nearing completion, the operating manual will be revised and finalized to reflect the operations of the project that has been completed. While the operations of the completed project must reflect the original intent of the PIR description as closely as possible, it must be recognized that the relationship of the completed project with the operations of the rest of the C&SF project, including other CERP projects, that have been completed may differ from the draft project operating manual in the PIR. Consequently, it may be necessary to revise the reservation to reflect the constructed project and the associated operations. This will occur in at least two circumstances: 1) when the projects that are assumed to be built during PIR analysis differs from what is actually constructed and 2) when a project performance differs from what was envisioned in the PIR.

Timing and Relationship of Project Development, Quantification of Water and Operating Manuals

Project Development Process	Stage of Quantification of Water	Stage of Operating Manual Development
PIR	Identify Quantity to be reserved	Draft Operating Manual
Detailed Design	Refine Quantity to be reserved	Update Draft Operating Manual
Plans and Specifications	Initial Reservation (adopted)	
PCA	Reservation verified	Construction Phase Operating Manual
Construction		Operational Testing Phase Operating Manual
Operational Testing		
Post Operational Testing	Refine Reservation (if required)	Final Operating Manual
Fully Operational		



X. Additional Water Supply and Resource Protection Strategies Proposed by the State to Complement CERP Implementation

A. Background

This section discusses additional water supply and resource protection strategies proposed by the State to complement the implementation of CERP. These additional strategies are primarily a result of the recommendations related to the *Lower East Coast Regional Water Supply Plan (LECRWSP)* and include: 1) quantification of regional water availability for water supply service areas and adoption of consumptive use permitting rules that define regional water availability; 2) establishment of initial reservations of water for the protection of fish and wildlife; 3) adoption and implementation of minimum flows and levels (MFL) rules which will limit future consumptive use withdrawals from priority water bodies in recovery consistent with the *LECRWSP* assumptions, and 4) adoption and implementation of a permit duration rule that identifies the reasonable assurances necessary to obtain a 20 year permit, and lesser duration permits consistent with availability of water for allocation and timeframes for CERP and regional water supply plan implementation. A figure showing the relationship of these State water resource protection strategies is included at the end of this section.

B. Quantification of Regional Water Availability for Water Supply Service Areas

The concept of Regional Water Availability (RWA) was first introduced in, and made a recommendation of, the *Lower East Coast Regional Water Supply Plan*, which was accepted by the Governing Board in May 2000. The purpose of RWA is to protect the Everglades ecosystem from harm and provide quantification of water for allocation to consumptive users by providing an accounting of the available regional water to the Lower East Coast supply service areas. The RWA will also include water necessary to meet non-consumptive uses within the Lower East Coast Plan region not associated with reservations for protection of fish and wildlife, particularly those that require water for protecting water supply sources such as prevention of saltwater intrusion. Identification of regional water availability is necessary in order to protect the water resources of the region while allowing for an optimization or more efficient use of the water for consumptive uses that is currently available. Since the major environmental benefits of CERP projects are not likely to be realized for five to ten years, it is necessary to identify the rate at which both consumptive uses and environmental enhancement will increase through time as provided for in the *LECRWSP* and as anticipated under CERP.

Using the SFWMM and/or an appropriate local level models, regional water availability will initially be identified from the existing conditions at the time of rule development (expected to be in 2005). A one in ten drought year will be statistically selected for each water supply service area from the period of historical rainfall record for the SFWMM, or appropriate rainfall station period of record. This is representative of consumptive use permitting criteria, consistent with the Section 373.0361, F.S. one in ten drought year level of certainty goal.

As certain CERP projects are constructed and successfully operated, and concurrent with the latest update of the *LECRWSP*, the RWA will be updated to identify the additional water made available for consumptive and other uses by the projects. These updates are contemplated to be performed at a minimum of every 5 years, or as CERP projects are constructed, and must be consistent with any reservations which are established for the natural system. Likewise, the RWA will be updated to include other water use basins that may not currently be connected to the regional system (e.g. northern Palm Beach County area through the implementation of the North Palm Beach County CERP project).

Surface water deliveries and ground water flows from the regional system to the water supply service areas during a one in ten drought condition should be documented using the SFWMM and/or other appropriate local level models. Loxahatchee National Wildlife Refuge (i.e., WCA 1) deliveries should be documented to Service Area 1, Water Conservation Area 2A deliveries should be documented to Service Area 2 and Water Conservation Area 3B deliveries should be documented to Service Area 3. Surface water deliveries from Lake Okeechobee should be documented to the Caloosahatchee Basin, Lake Rim Area, St. Lucie Basin and the Everglades Agricultural Basin.

Not only will the water available for future consumptive uses be identified as part of the CERP process, but also potential shortfalls in future demands will be identified and planned for as part of the five year updates of the *Lower East Coast Regional Water Supply Plan*. Changes in the projected water availability based on actual project performance, construction schedule

adjustments, unanticipated changes in consumptive use demands, funding, and institutional issues will require an ongoing strategy of periodic regional system-wide review to insure that both future water use demands and environmental goals are met. If a shortfall is projected for future consumptive uses, then periodic updates of the regional water supply plans under State law will identify the necessity of additional water resource development projects or water supply development projects, including conservation measures, to make up for the shortfall.

C. Implementation of Regional Water Availability through Consumptive Use Permitting Rules

As each CERP project is constructed and operational, regional water availability also will change requiring concurrent revisions to the regional water availability rule. These revisions will not only reflect the changes in the system-wide operations necessary to effectively implement each constructed project, but will also form the basis for potential increases in available supply for allocation to human uses.

In order to assure that the volumes of regional water available for consumptive uses are not over-allocated or likewise redirected to environmental restoration, an accounting procedure needs to be established in SFWMD rules and implemented through the permit application review process. In concept, this process would include the following steps:

1. The amount of regional water (surface water and groundwater seepage, as applicable) available for both consumptive and non-consumptive uses within each service area would be quantified as described above. These volumes would be codified in SFWMD consumptive use permit rules based on one in ten drought hydrologic conditions, with considerations for system operations (such as canal operational stages), CUP demands and land use within the service area reflective of the modeling assumptions from which the rules are adopted. Changes to the regional water availability volumes, as a result of deployment of regional water resource development projects or as a result of changes in the quantification methodology would require a formal change to the rule.
2. During the review of each individual water use permit within the service area, the applicant will be required to quantify the portion of the requested allocation that is regional water verses other sources such as local groundwater storage. This evaluation would be needed for projects proposing uses that: a) withdraw surface water from primary or secondary canals that are primarily maintained by regional water deliveries, b) withdraw groundwater beneath primary or secondary canals that are maintained by regional water deliveries to a degree that cause seepage of regional water into the well(s), or c) withdraw groundwater at a location and of a magnitude to cause increased seepage of regional water beneath the levees along the Lower East Coast. The analytic methods used by the applicant to quantify the amount of regional water proposed for use by the project must be consistent with the methods and model used to define the total regional water available to the service area in the rule. Consideration of the use of an alternative source to the degree that they offset proposed demands on the regional system will also be evaluated and encouraged, such as through longer permit duration.

3. A ledger will be kept that documents the portions of regional water available to a service area that has been allocated to date. The amount of regional water proposed to be used by the permit applicant will be added to the existing uses in the ledger and compared with the total amount of regional water available to the service area defined by rule. The object is to not exceed the volume in the rule.

4. It is recognized that the total amount of regional water defined in the rule must meet both consumptive and non-consumptive uses in the service area. Non-consumptive uses of regional water will be protected by the permit applicant meeting the remaining conditions of permit issuance (such as salt-water intrusion prevention, isolated wetland protection, water conservation requirements etc.). In addition, the ledger volumes will be checked regularly (prior to the monthly Governing Board meetings or quarterly) using the same model and assumptions that were used to generate the original service area volume in the rule to see that the total of consumptive and non-consumptive demands for regional water have not been exceeded.

It should be recognized that this concept is subject to significant refinement or revision during the actual rule development/rule making process. The RWA rule should also define what actions are to be taken in the event that demands of a basin equal or exceeds the volume of regional water available to the basin by rule.

D. Establishing an Initial Reservation of Water for the Natural System

The *Lower East Coast Regional Water Supply Plan* recommended establishment of an initial reservation of water for the Everglades Protection Area. The intent of this initial reservation is to reserve from allocation those natural system deliveries that are currently available to and beneficial for the protection of fish and wildlife. Initial reservations are envisioned for the Water Conservation Areas and Everglades National Park, for which rainfall driven schedules are being developed that improve the timing, flow and distribution of water to enhance these areas. Additionally, initial reservations are anticipated for all the major estuaries to reflect flows currently available which fall within minimum and maximum salinity envelopes that benefit the protection of fish and wildlife. Deliveries that fall outside of these envelopes will not be reserved from allocation. The initial reservation will be consistent with the regional water availability rule.

The Natural System Model (NSM) hydropattern estimates and CERP environmental performance measures will be used as the basis for the modeling analysis through the SFWMM with considerations for the existing storage, conveyance, structures, existing legal users and other constraints of the current system. Once the modeling scenarios confirm that the environmental performance of the modeling output is acceptable (i.e., the best that can be achieved with the existing C&SF system), the environmental delivery assumptions will be converted to operational rules.

The performance of the rainfall driven schedules and salinity envelopes will then be documented through volume probability curves and NSM hydropattern matches for the period of historical rainfall. The portion of the rainfall driven deliveries that are projected to protect fish and

wildlife will be reserved from allocation. Reservations for future CERP projects (see Section IX) will then build on this initial reservation.

E. Minimum Flows and Levels Rule

The SFWMD is responsible for the implementation of statutory provisions in Section 373.042, F.S., requiring establishment Minimum Flows and Levels (MFLs) for watercourses and aquifers. Generally stated, the MFLs for a given watercourse or aquifer are the limit at which further withdrawals would be significantly harmful to the water resources of the area. Section 373.042, F.S. Significant harm is defined by SFWMD rule to be the temporary loss of water resource functions that takes more than two years to recover. Rule 40E-8.021(24), F.A.C. Certain exclusions and considerations for establishing MFLs, including defining "significant harm" for a specific water body, are contained in Section 373.0421, F.S. Recovery and prevention strategies must also be developed if there are existing or projected shortfalls in meeting the MFL, as provided by Section 373.0421, F.S.

Minimum flow and level standards for specific water bodies and aquifers within the SFWMD are contained in Chapter 40E-8, F.A.C., which also includes recovery and prevention strategies for each MFL. At this time MFLs have been established for the following:

- Lake Okeechobee
- Everglades (Water Conservation Areas, Everglades National Park, and Rotenberger and Holeyland Wildlife Management Areas)
- Northern Biscayne Aquifer within the Lower East Coast
- Lower West Coast confined aquifers
- Caloosahatchee Estuary
- Northwest Fork of the Loxahatchee River
- St. Lucie River.

The SFWMD is also proceeding with efforts to develop MFLs for the Biscayne Bay and the Southern Biscayne aquifer by the end of 2004 and the Florida Bay by the end of 2006.

In addition to the standards and recovery and prevention strategies in Chapter 40E-8, specific consumptive use permitting criteria for MFLs are adopted in Chapter 40E-2, F.A.C. and water shortage criteria for MFLs are adopted in Chapters 40E-21 and 40E-22, F.A.C. Primarily these criteria prohibit increased allocations that are a direct withdrawal from MFL priority water bodies in recovery, and limit increased allocations which are an indirect withdrawal to those which do not affect the performance of the MFL.

F. CUP Permit Duration Rule

Pursuant to Section 373.236, F.S., the water management districts are required to issue 20 year consumptive use permits if there is sufficient data to provide reasonable assurance that the conditions for permit issuance will be met for the duration. If sufficient data does not exist to provide the necessary reasonable assurances, permit duration must reflect the period for which such reasonable assurances can be provided. To this end the SFWMD has proposed a permit

duration rule identifying conditions under which 20-year permits can be obtained, and under which shorter-term permits would be appropriate based on limited availability of certain water supply sources. This rule is projected to be adopted in 2003.

State Water Resource Protection Strategies

